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ABSTRACT

The West Tennessee Research Development Consortium was formed to increase research potential of Freed-Hardeman College at Henderson and Lane College at Jackson. The Consortium consisted of a proposal and project designed (1) to train in research methodology 1 person on each of the 2 campuses, and (2) to offer concurrently an in-service training program to 8 faculty members in each of the colleges. This document presents an outline of the program including the methodology used and results found. The primary objectives of the program were: (1) to develop research competencies in selected personnel on the campuses of the 2 colleges through a cooperative research venture; (2) to expose the staffs of each of the colleges to an on-going research project while gaining the benefits of an in-service training experience; (3) to demonstrate the importance of research to the developing institutions; (4) to develop curriculum materials that will aid the maintenance quality of instruction in developing institutions through in-service programs; and (5) to study the treatment effects of curriculum packages designed to upgrade the instructional processes in higher education. (Author/HS)

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WEST TENNESSEE RESEARCH DEVELOPMENT CONSORTIUM

Dr. James W. Colmey, Director

Mr. John R. Petry, Instructional Processes
and Research Instructor

Memphis State University

Memphis, Tennessee 38111

June, 1969

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West Tennessee Research Development Consortium

SUMMARY

The West Tennessee Research Development Consortium was formed to increase research potential in two developing West Tennessee colleges: Freed-Hardeman College, Henderson, Tennessee, and Lane College, Jackson, Tennessee. The Consortium consisted of a proposal and project designed (1) to train in research methodology one person on each of the two college campuses (whose student bodies average 900), and (2) to offer concurrently an in-service training program (to eight faculty members in each of these two colleges). The in-service training program sought to try out a series of instructional materials designed to upgrade teaching on the higher education level. One of the treatments centered around test construction /1/; the other was designed to improve and increase skills in the use of educational media /2/.

The research development program sought to achieve the following objectives: (1) to develop or advance research competencies in selected personnel on the campuses of the two cooperating colleges through conducting a cooperative research venture; (2) to expose the staffs of each of these colleges to the opportunity to observe and participate in an on-going research project while gaining the benefits of an in-service training experience; (3) to demonstrate the importance of research as a discipline or an instructional method, or as a decision-making instrument, to these two developing institutions; (4) to develop curriculum materials which will aid in the maintenance quality of instruction in developing institutions through in-service programs; and (5) to study the treatment effects of curriculum packages designed to upgrade the instructional processes in higher education.

A two-hour faculty seminar was held every other week at each campus during which the experimental treatments were discussed. The researcher at Memphis State University provided assistance in the administration and development of the curriculum packets and interacted with consultants specifically hired to help develop the

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[1] See Appendix A, pp. 38-59.

[2] See Appendix B, pp. 64-70.

curriculum packets. The group of eight faculty personnel on each campus who received experimental instruction were evaluated by students in one of their classes through two rating instruments, the Purdue Rating Scale for Instruction (O_1) /1/ and the Stanford Teacher Competence Appraisal Guide(O_2) /2/. Also, the Test Construction unit was preceded and followed by a criterion test (O_3) /3/. Using O for the criteria assessment and T_3 (Test Construction) and T_4 (Educational Media) for the treatments, the general design for the year was the following:

	Semester 1	Semester 2
Group 1	$O_1O_2O_3$ T_3 $O_1O_2O_3$	O_1O_2 T_4 O_1O_2
Group 2	O_1O_2 T_4 O_1O_2	$O_1O_2O_3$ T_3 $O_1O_2O_3$

The Instructional Processes Instructor from Memphis State University coordinated the overall instruction program and with the Institutional Researchers administered each of the treatments.

The statistical data /4/ of the in-service training program revealed a differential effect on both rating instruments over both treatments. Though significant changes toward improvement were shown on both items and faculty members, more instances of significant negative changes were recorded, particularly on items. The differential effect could have been influenced by an inadequate treatment basis, the gaining of sophistication by student raters, or the relationship between the rating instruments and the treatments.

Despite the inconsistency of the results of testing the two packets of curriculum materials, considerations can be made for continuing this program. The Institutional Researchers have expressed a desire to continue administering the project because of gains in their own research skills and interests. The attitude of the faculty members toward research has been positively

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[1] See Appendix C, pp. 71-73.

[2] See Appendix D, pp. 74-75.

[3] See Appendix A, pp. 60-63.

[4] See Appendix E for Means and Standard Deviations on the Purdue and Stanford scales, pp. 76-96.

influenced and their participation in research projects has been increased. Not least, the presidents of both institutions have expressed a desire for continuance of the program, partly because the Consortium has been a leaven for increasing interest among faculty members not directly involved in the project.

The additional treatment proposed for the third year of the Consortium offers the possibility of significant gains among participating faculty members because knowledge of the contents of the curriculum packet is not widespread. The materials discussed through the second year - the lecture method, the discussion method, the educational media, and the test construction - have been more familiar than that proposed for the third year. Because faculties were receptive to studying these treatments, the climate for receptivity to new information and techniques has been established not only among faculty members but also among the administrative personnel of the two developing colleges. It is recommended that the in-service program be continued and that the treatment be more specific through the use of more thoroughly developed materials.

INTRODUCTION

The cultural lag in the South has created crucial educational needs demanding rapid development of higher education institutions and revision of past educational practices. Lane College and Freed-Hardeman College are two developing institutions in West Tennessee trying to meet these needs with expanding programs. Their plans demand an increase in faculty skills, including those of a research nature.

In these developing institutions the possession of limited funds presents difficulties in the recruiting of faculty to meet institutional desires and needs. The main route to expansion in research activities taken by these colleges is to develop research competencies in their present faculty members. In-service experiencies are needed to aid faculty members in developing not only their potential as research personnel but also their ability in instructional processes and skills.

Development of a continuing in-service program, however, needs research-oriented personnel and released faculty time that can be ill-afforded by these colleges. Although both in-service programs and programs designed to develop research personnel are crucial to these institutions, attempted development is not practical without outside support.

As part of an accelerated growth pattern, Memphis State University is participating actively in developing an educational research program. Several of its projects involve programs with institutions in the Mid-South area. This program, begun in August, 1966, with a grant from the U.S. Office to establish an undergraduate research training program, now includes a permanent full-time staff who assure the continued development of a maturing program in research activity. The West Tennessee Research Development Consortium seeks: (1) to develop research competencies of potential researchers on the campuses of the two colleges through the conduct of a cooperative research venture and through research training; (2) to expose the staffs and students of each of these colleges to opportunities to observe and participate in an on-going research project; (3) to demonstrate the importance of research to developing institutions as a field of endeavor, as a decision-making instrument, and as an instructional method; (4) to develop curriculum materials which will aid in the maintenance quality of instruction in developing institutions through in-service programs; (5) to study the treatment effects of curriculum packets designed to upgrade instructional processes in higher education, a need virtually unattended, and (6) to offer laboratory experiences for research training students at Memphis State University.

METHODS

A faculty seminar (composed of eight faculty members selected by each college's administration) met two hours every two weeks at each college during the 1968-69 academic year. The faculty was made familiar with the selected criteria instruments (the Stanford Teacher Competence Appraisal Guide and the Purdue Rating Scale for Instruction). They were made aware that: (1) there were no local norms on these instruments; (2) there was no attempt to compare faculty ability; (3) ratings of instructional approaches by individual faculty personnel in each group were to be held confidential and returned to each faculty participant upon his request, otherwise individual ratings were made unidentifiable in the calculation of group means; (4) students in the classes of each faculty member provided the ratings on instructional procedures anonymously; and (5) ratings were used only to ascertain effectiveness of the treatments. After the first meeting, baseline ratings were made.

A different treatment was administered to each group in a pretest/post-test design during the first semester:

Time	Group 1	Group 2
1st week	Orientation	Orientation
3rd week	Baseline Data Established, Test Construction Treatment Begun	Baseline Data Established, Educational Media Treatment Begun
13th week	Last Criteria Measurement	Last Criteria Measurement
15th week	Analysis, Interpretation and Discussion of Results	Analysis, Interpretation and Discussion of Results

During the second semester the treatments, (1) Test Construction and (2) Educational Media, were exchanged between schools, providing an AB-BA comparison design. Approximately the same treatment was directed toward specific behavioral goals.

The Educational Media treatment was directed toward the improvement of teaching through an understnading of the operation of audio-visual equipment and the utilization of it in actual classroom situations, the preparation of a variety of materials, and discussion of newly developing media concepts and related instructional devices. During the seminars, the following topics were discussed: the overhead projector and transparencies, the bulletin board, preparing 2" x 2" slides, the filmstrip and slide projector, the tape recorder, and the 16 mm movie projector.

The Test Construction treatment dealt with testing and evaluating as part of the learning process, behavioral objectives, validity and reliability, types of testing, and objective testing. Four major objectives underlay the unit: improvement in test design, item selection, unit design, and differentiated testing.

FINDINGS AND ANALYSIS

The Educational Media Treatment

The Educational Media treatment was studied during the first semester by the Lane College faculty members, during the second semester by teachers at Freed-Hardeman College. Two types of analyses were made on the pre-test/post-test ratings given the teachers by students on two rating instruments (twenty selected items of the Purdue Scale, and the Stanford Guide): (1) t-tests on items on each of the scales, and on teachers in the groups; and (2) difference score matrices on items and teachers. The t-tests were made in order to ascertain if there were any significant differences in the treatment; the difference score matrices were constructed in order to see how individual members changed and on what items.

T-tests. Tables 1 and 2 record analyses made upon items on the rating scales for the Lane College teachers. Table 1 shows that there were no significant differences between the pre-test/post-test ratings except on two items of the Purdue Scale; both were negatively significant. In contrast, Table 2 reveals a negative significance on ten items on the Stanford Scale. For Freed-Hardeman teachers, Table 3 records no items with significant differences on the Purdue Scale except for one which is negatively significant. Table 4 shows no significant differences on the Stanford Scale except for two items, both positively significant.

Tables 5 and 6 indicate analyses made upon Lane College faculty on the two rating scales. Table 5 shows that there were six teachers who registered significant scores, three of which were of negative significance - one severly so - on the Purdue Scale. Table 6, a record of t-value scores on the Stanford Guide, has four negative t-values, two extremely so, of six significant scores.

Tables 7 and 8 disclose analyses on Freed-Hardeman faculty on the two rating scales. Table 7 shows an equal distribution of the six significant t-values, three negative and three positive, on the Purdue Scale. Table 8 tells that on the Stanford Guide all t-values were of significance, with five being positive.

Difference Score Matrices. Table 9 reveals that there was a differential effect or reception of the Educational Media treatment by the Lane College faculty on the difference score matrix on the Purdue Scale. There was one item mean increase and three teacher mean increases. The differential effect repeated on the Stanford Guide: Table 10 shows that there were three individuals whose means increased but there was not an item mean increase despite positive individual improvement.

On the same treatment involving Freed-Hardeman faculty, Table 11 reports that, on the difference score matrix on the Purdue Scale, three item means increased while three individual means increased. Table 12 indicates that on the Stanford Guide there were increases on all item means and that five of the eight teachers sustained increases on individual means. Again, a differential effect was present.

The Test Construction Treatment

The Test Construction treatment was studied during the first semester by Freed-Hardeman College faculty members, during the second semester by teachers at Lane College. Analyses of data paralleled that made on the other treatment: (1) t-tests on items on

TABLE 1

Comparison of Pre-test/Post-test Scores of Lane College Teachers Using T-test on Items of the Purdue Rating Scale for Instruction*

Fall Semester, 1968

Item	t-value	df	Significance
Interest in Subject	-0.77	7	ns
Sympathetic Attitude Toward Students	-1.73	7	.10
Fairness in Grading	0.27	7	ns
Liberal and Progressive Attitude	-0.81	7	ns
Presentation of Subject Matter	-1.26	7	ns
Sense of Proportion and Humor	-1.03	7	ns
Self-Reliance and Confidence	-0.10	7	ns
Personal Peculiarities	-0.78	7	ns
Personal Appearance	-2.54	7	.05
Stimulating Intellectual Curiosity	-1.22	7	ns

Levels: $p < .10$ $t > 1.415$
$p < .05$ $t > 1.895$
$p < .01$ $t > 2.998$

*Scores were mean student ratings of each Lane College teacher during the first semester.

TABLE 2

Comparison of Pre-test/Post-test Scores of Lane College Teachers Using T-test on Items of the Stanford Teacher Competence Appraisal Guide*

Fall Semester, 1968

Item	t-value	df	Significance
Clarity of Aims	-1.78	7	.10
Appropriateness of Aims	-1.62	7	.10
Organization of Lesson	-1.11	7	ns
Selection of Content	-1.81	7	.10
Selection of Materials	-1.47	7	.10
Beginning the Lesson	-2.55	7	.05
Clarity of Presentation	-2.14	7	.05
Pacing of the Lesson	-2.38	7	.05
Pupil Participation and Attention	-2.32	7	.05
Ending the Lesson	-1.36	7	ns
Teacher-Pupil Rapport	-1.32	7	ns
Variety of Evaluative Procedures	-1.74	7	.10
Use of Evaluation to Improve Teaching and Learning	-1.83	7	.10

Levels: $p < .10$ $t > 1.415$
$p < .05$ $t > 1.895$
$p < .01$ $t > 2.998$

*Scores were mean student ratings of each Lane College teacher during the first semester.

TABLE 3

Comparison of Pre-test/Post-test Scores of Freed-Hardeman College Teachers Using T-test on Items of the Purdue Rating Scale for Instruction*

Spring Semester, 1969

Item	t-value	df	Significance
Interest in Subject	-1.13	7	ns
Sympathetic Attitude Toward Students	-1.24	7	ns
Fairness in Grading	1.20	7	ns
Liberal and Progressive Attitude	0.26	7	ns
Presentation of Subject Matter	0.04	7	ns
Sense of Proportion and Humor	0.71	7	ns
Self-Reliance and Confidence	-0.46	7	ns
Personal Pecularities	-0.92	7	ns
Personal Appearance	-2.09	7	.05
Stimulating Intellectual Curiosity	-1.17	7	ns

Levels: $p < .10$ $t > 1.415$
$p < .05$ $t > 1.895$
$p < .01$ $t > 2.998$

*Scores were mean student ratings of each Freed-Hardeman College teacher during the second semester.

TABLE 4

Comparison of Pre-test/Post-test Scores of Freed-Hardeman College Teachers Using T-test on Items of the Stanford Teacher Competence Appraisal Guide*

Spring Semester, 1969

Item	t-value	df	Significance
Clarity of Aims	1.36	7	ns
Appropriateness of Aims	0.53	7	ns
Organization of Lesson	1.76	7	.10
Selection of Content	1.36	7	ns
Selection of Materials	0.32	7	ns
Beginning the Lesson	0.55	7	ns
Clarity of Presentation	0.60	7	ns
Pacing of the Lesson	1.66	7	.10
Pupil Participation and Attention	1.39	7	ns
Ending the Lesson	1.15	7	ns
Teacher-Pupil Rapport	1.23	7	ns
Variety of Evaluative Procedures	0.16	7	ns
Use of Evaluation to Improve Teaching and Learning	1.10	7	ns

Levels: $p < .10$ $t > 1.415$
$p < .05$ $t > 1.895$
$p < .01$ $t > 2.998$

*Scores were mean student ratings of each Freed-Hardeman College teacher during the second semester.

TABLE 5

T-test on Lane College Faculty by Comparing Pre-Test/Post-Test Scores on the Purdue Rating Scale for Instruction*

Fall Semester, 1968

Faculty Member	t-value	df	Significance
01	3.12	9	.01
04	1.85	9	.05
06	-7.86	9	.01
09	3.31	9	.01
10	-3.37	9	.01
11	-0.33	9	ns
13	-0.32	9	ns
14	-1.84	9	.05

Level:		
	$p < .10$	$t > 1.383$
	$p < .05$	$t > 1.833$
	$p < .01$	$t > 2.821$

*Scores were mean student ratings of each Lane College teacher during the first semester.

TABLE 6

T-test on Lane College Faculty by Comparing Pre-Test/Post-Test Scores on the Stanford Teacher Competence Appraisal Guide*

Fall Semester, 1968

Faculty Member	t-value	df	Significance
01	2.37	12	.05
04	1.74	12	.10
06	-16.63	12	.01
09	-4.17	12	.01
10	-10.36	12	.01
11	0.75	12	ns
13	-3.87	12	.01
14	-0.33	12	ns

Level: $p < .10$ $t > 1.356$
$p < .05$ $t > 1.782$
$p < .01$ $t > 2.681$

*Scores were mean student ratings of each Lane College teacher during the first semester.

TABLE 7

T-test on Freed-Hardeman College Faculty by Comparing Pre-Test/Post-Test Scores on the Purdue Rating Scale for Instruction*

Spring Semester, 1969

Faculty Member	t-value	df	Significance
51	-1.02	9	ns
52	-0.35	9	ns
54	2.68	9	.05
56	1.76	9	.10
58	-3.58	9	.01
59	-1.84	9	.05
60	-4.98	9	.01
61	4.97	9	.01

Level:		
	$p < .10$	$t > 1.383$
	$p < .05$	$t > 1.833$
	$p < .01$	$t > 2.821$

*Scores were mean student ratings of each Freed-Hardeman teacher during the second semester.

TABLE 8

T-test on Freed-Hardeman College Faculty by Comparing Pre-Test/Post-Test Scores on the Stanford Teacher Competence Appraisal Guide*

Spring Semester, 1969

Faculty Member	t-value	df	Significance
51	-2.12	12	.05
52	4.39	12	.01
54	5.70	12	.01
56	2.97	12	.01
58	2.76	12	.01
59	-2.50	12	.05
60	-3.43	12	.01
61	5.87	12	.01

Level:		
	$p < .10$	$t > 1.356$
	$p < .05$	$t > 1.782$
	$p < .01$	$t > 2.681$

*Scores were mean student ratings of each Freed-Hardeman teachers during the second semester.

TABLE 9

Difference Scores Matrix for the Purdue Rating Scale for Instruction for Lane College*

Fall Semester, 1968

Teacher	1	2	3	4	5	6	7	8	9	10	Mean
01	+	-	-	+	+	+	-	+	+	+	+
04	+	-	+	+	-	-	+	+	-	+	+
06	-	-	-	-	-	-	-	-	-	-	-
09	+	+	-	+	+	+	+	-	+	+	+
10	+	-	-	-	-	-	-	-	-	-	-
11	+	-	-	+	-	-	+	+	0	-	-
13	-	-	+	-	+	+	+	+	-	+	-
14	-	-	-	-	+	-	-	-	-	+	-
Mean	-	-	-	-	-	-	0	-	-	+	-

*Difference scores were formed by subtracting pre-test mean student ratings from post-test student ratings of each Lane College teacher during the first semester. The +'s, -'s, and 0's reported indicate increase, decrease, and no change, respectively, from pre-test to post-test.

TABLE 10

Difference Scores Matrix For the Stanford Teacher Competence Appraisal Guide for Lane College*

Fall Semester, 1968

Teacher	1	2	3	4	5	6	7	8	9	10	11	12	13	Mean
01	+	+	+	+	+	−	+	−	+	−	+	+	+	+
04	+	+	+	+	+	−	−	+	−	+	+	−	+	+
06	−	−	−	−	−	−	−	−	−	−	−	−	−	−
09	−	−	−	−	−	−	−	−	−	−	−	−	−	−
10	−	−	−	−	−	−	−	−	−	−	−	+	−	−
11	+	−	+	−	+	−	−	−	−	+	+	+	+	+
13	−	−	−	−	−	−	+	−	−	−	+	−	−	−
14	+	+	+	+	−	−	−	−	−	+	−	−	−	−
Mean	−	−	−	−	−	−	−	−	−	−	−	−	−	−

*Difference scores were formed by subtracting pre-test mean student ratings from post-test ratings of each Lane College teacher during the first semester. The +'s and -'s reported indicate increase or decrease, respectively, from pre-test to post-test.

TABLE 11

Difference Scores Matrix for the Purdue Rating Scale for Instruction for Freed-Hardeman College*

Spring Semester, 1969

Teacher	1	2	3	4	5	6	7	8	9	10	Mean
51	-	-	-	+	-	+	+	-	-	-	-
52	-	+	+	-	-	+	-	+	-	-	-
54	+	+	-	+	+	+	+	+	+	+	+
56	+	-	+	+	-	+	+	+	+	-	+
58	-	+	+	-	-	-	-	-	-	-	-
59	0	-	-	+	-	+	-	0	-	+	-
60	-	-	-	-	-	-	-	-	-	-	-
61	+	-	+	+	+	+	+	+	0	+	+
Mean	-	-	+	+	-	+	-	-	-	-	-

*Difference scores were formed by subtracting pre-test mean student ratings from post-test ratings of each Freed-Hardeman College teacher during the second semester. The +'s and -'s recorded indicate increase or decrease, respectively, from pre-test to post-test; 0's indicate no change.

TABLE 12

Difference Scores Matrix for the Stanford Teacher Competence Appraisal Guide for Freed-Hardeman College*

Spring Semester, 1969

Teacher	1	2	3	4	5	6	7	8	9	10	11	12	13	Mean
51	-	-	-	-	-	-	+	+	+	-	-	-	-	-
52	+	+	+	+	+	+	+	+	-	+	+	-	+	+
54	-	+	+	+	+	+	+	+	+	+	+	+	+	+
56	+	+	+	+	+	0	+	+	+	+	+	-	+	+
58	+	+	+	+	+	-	-	+	+	+	+	+	+	+
59	0	-	-	-	-	-	-	+	-	+	-	-	+	-
60	-	-	-	-	-	-	-	-	+	-	-	-	+	-
61	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Mean	+	+	+	+	+	+	+	+	+	+	+	+	+	+

*Difference scores were formed by subtracting pre-test mean student ratings from post-test ratings of each Freed-Hardeman College teacher during the second semester. The +'s, -'s, and 0's recorded indicate increase, decrease, or no change, respectively, from pre-test to post-test.

each of the scales, and on teachers in the groups; and (2) difference score matrices. Additionally, a pre-test and post-test, designed by the consultant, was given each faculty member over the Test Construction treatment.

T-tests. Tables 13 and 14 show the analyses of the Freed-Hardeman College teachers on items on the rating scales. Table 13 records that negative significance was found on the Purdue Scale on nine items, no significant difference on the remaining eleven. Table 14 points out that there were no significant differences on eight items on the Stanford Guide, negative significance on the remaining five. Tables 15 and 16 disclose the analyses of the Lane College faculty on items on the rating scales. Table 15 has no significant differences on fifteeen of the twenty items on the Purdue Scale, negative significance on the five others. Table 16 shows no significant differences on items on the Stanford Guide.

Tables 17 and 18 depict t-values made on F-H College faculty on the two rating scales. Table 17 shows that on the Purdue Scale the t-values of all faculty members are of significance over the first ten items of the scale, all but one being negative. On items 11-20 significance was discovered on the t-values of six of the eight teachers, four of these being negative. Table 18 shows that on the Stanford Guide, seven of eight faculty t-values were found to be significant, six of which were negative.

Tables 19 and 20 disclose analyses made on all the Lane College faculty on the same scales. On 19, five teachers have t-values of significance over the first ten items of the Purdue Scale; four of these were negative scores, one extremely so. Over items 11-20 on the Purdue Scale, five faculty achieved t-values of significance, three of which were positive, one extremely so. Table 20 reveals that on the Stanford Scale six faculty t-values were of significance, four of which were positive. In general, there was a differential effect over the treatments on the two scales.

Difference Score Matrices. Table 21 shows the difference score matrix computed for the Freed-Hardeman College group on the Test Construction treatment during the first semester. The group means increased on only one item of the first ten and on four of the next ten, items dealing specifically with testing. One faculty member had a mean increase on the two portions of the scale, while one other had an increase on the last ten items. Table 22, the matrix of the Freed-Hardeman group for the Stanford Guide, shows a scattering of increases among six members of the group with three item mean increases and two faculty mean increases. This indicates a differential effect for this group.

TABLE 13

Comparison of Pre-Test/Post-Test Scores of Freed-Hardeman College Teachers Using T-test on Items of the Purdue Rating Scale for Instruction *

Fall Semester, 1968

Item	t-value	df	Significance
Interest in Subject	-3.50	7	.01
Sympathetic Attitude Toward Students	-3.24	7	.01
Fairness in Grading	-0.28	7	ns
Liberal and Progressive Attitude	-1.27	7	ns
Presentation of Subject Matter	-2.19	7	.05
Sense of Proportion and Humor	-1.66	7	.10
Self-Reliance and Confidence	-1.05	7	ns
Personal Pecularities	-2.12	7	.05
Personal Appearance	-2.07	7	.05
Stimulating Intellectual Curiosity	-2.41	7	.05
Suitability of Methods	-1.62	7	.10
Degree Objectives Clarified and Discussed	-0.89	7	ns
Agreement Between Announced Objectives and Those Taught	-0.70	7	ns
Use of Tests as Learning Aids	-0.75	7	ns
Student Freedom in Selecting Materials	-1.33	7	ns
How Course Fulfills Needs	-1.79	7	.10
Weight Grade Given to Tests in Determining Final Grade	-0.79	7	ns
Test-Major Objectives Coordination	-0.40	7	ns
Frequency of Tests	-1.47	7	ns
Overall Rating of Instructor	-1.15	7	ns

Levels: $p < .10$ $t \geq 1.415$
$p < .05$ $t \geq 1.895$
$p < .01$ $t \geq 2.998$

*Scores were mean student ratings of each Freed-Hardeman College teacher during the first semester.

TABLE 14

Comparison of Pre-test/Post-test Scores of Freed-Hardeman College Teachers Using T-test on Items of the Stanford Teacher Competence Appraisal Guide*

Fall Semester, 1968

Item	t-value	df	Significance
Clarity of Aims	-1.61	7	.10
Appropriateness of Aims	-0.51	7	ns
Organization of Lesson	-1.19	7	ns
Selection of Content	-0.50	7	ns
Selection of Materials	0.33	7	ns
Beginning the Lesson	-1.70	7	.10
Clarity of Presentation	-2.11	7	.05
Pacing of the Lesson	-1.53	7	.10
Pupil Participation and Attention	-1.28	7	ns
Ending the Lesson	-1.31	7	ns
Teacher-Pupil Rapport	-1.18	7	ns
Variety of Evaluative Procedures	-1.69	7	.10
Use of Evaluation to Improve Teaching and Learning	-0.15	7	ns

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Levels:		
	$p < .10$	$t > 1.415$
	$p < .05$	$t > 1.895$
	$p < .01$	$t > 2.998$

*Scores were mean student ratings of each Freed-Hardeman College teacher during the first semester.

TABLE 15

Comparison of Pre-Test/Post-Test Scores of Lane College Teachers Using T-test on Items of the Purdue Rating Scale for Instruction*

Spring Semester, 1969

Item	t-value	df	Significance
Interest in Subject	-0.90	7	ns
Sympathetic Attitude Toward Students	-1.06	7	ns
Fairness in Grading	-0.96	7	ns
Liberal and Progressive Attitude	-1.73	7	.10
Presentation of Subject Matter	-1.41	7	.10
Sense of Proportion and Humor	-1.62	7	.10
Self-Reliance and Confidence	-0.82	7	ns
Personal Pecularities	-1.60	7	.10
Personal Appearance	-0.98	7	ns
Stimulating Intellectual Curiosity	-1.70	7	.10
Suitability of Methods	0.58	7	ns
Degree Objectives Clarified and Discussed	0.37	7	ns
Agreement Between Announced Objectives and Those Taught	0.48	7	ns
Use of Tests as Learning Aids	-0.25	7	ns
Student Freedom in Selecting Materials	0.07	7	ns
How Course Fulfills Needs	-0.01	7	ns
Weight Grade Given to Tests in Determining Final Grade	-0.22	7	ns
Test-Major Objectives Coordination	0.11	7	ns
Frequency of Tests	0.79	7	ns
Overall Rating of Instructor	-0.59	7	ns

Levels:		
	$p < .10$	$t \geq 1.415$
	$p < .05$	$t \geq 1.895$
	$p < .01$	$t \geq 2.998$

*Scores were mean student ratings of each Lane College teacher during the second semester.

TABLE 16

Comparison of Pre-test/Post-test Scores of Lane College Teachers Using T-test on Items of the Stanford Teacher Competence Appraisal Guide*

Spring Semester, 1969

Item	t-value	df	Significance
Clarity of Aims	0.27	7	ns
Appropriateness of Aims	0.53	7	ns
Organization of Lesson	-0.38	7	ns
Selection of Content	-0.12	7	ns
Selection of Materials	1.26	7	ns
Beginning the Lesson	0.32	7	ns
Clarity of Presentation	-0.56	7	ns
Pacing of the Lesson	-0.92	7	ns
Pupil Participation and Attention	0.07	7	ns
Ending the Lesson	-0.64	7	ns
Teacher-Pupil Rapport	-0.03	7	ns
Variety of Evaluative Procedures	-0.09	7	ns
Use of Evaluation to Improve Teaching and Learning	-0.74	7	ns

---

Levels: $p < .10$ $t > 1.415$
$p < .05$ $t > 1.895$
$p < .01$ $t > 2.998$

*Scores were mean student ratings of each Lane College teacher during the second semester.

TABLE 17

T-test on Freed-Hardeman College Faculty by Comparing Pre-Test/Post-Test Scores on the Purdue Rating Scale for Instruction*

Fall Semester, 1968

Faculty Member		t-value	df	Significance
	Items 1-10			
51		-3.75	9	.01
52		-3.01	9	.01
54		-1.83	9	.05
56		2.74	9	.05
58		-6.57	9	.01
59		-5.19	9	.01
60		-2.76	9	.05
61		-2.49	9	.05
	Items 11-20			
51		-5.72	9	.01
52		-6.98	9	.01
54		-0.58	9	ns
56		5.61	9	.01
58		-0.13	9	ns
59		3.89	9	.01
60		-2.40	9	.05
61		-6.87	9	.01

Level: $p < .10$ $t > 1.383$
$p < .05$ $t > 1.833$
$p < .01$ $t > 2.821$

*Scores were mean student ratings of each Freed-Hardeman teacher during the first semester.

TABLE 18

T-test on Freed-Hardeman College Faculty by Comparing Pre-Test/Post-Test Scores on the Stanford Teacher Competence Appraisal Guide*

Fall Semester, 1968

Faculty Member	t-value	df	Significance
51	-0.85	12	ns
52	-4.40	12	.01
54	-3.61	12	.01
56	9.30	12	.01
58	-5.73	12	.01
59	-1.52	12	.10
60	-1.43	12	.10
61	-6.31	12	.01

Level: $p < .10$ $t > 1.356$
$p < .05$ $t > 1.782$
$p < .01$ $t > 2.681$

*Scores were mean student ratings of each Freed-Hardeman College teacher during the first semester.

TABLE 19

T-test on Lane College Faculty by Comparing Pre-Test/Post-Test Scores on the Purdue Rating Scale for Instruction*

Spring Semester, 1969

Faculty Member		t-value	df	Significance
	Items 1-10			
01		4.20	9	.01
06		0.34	9	ns
09		-9.83	9	.01
10		-4.24	9	.01
11		-3.15	9	.01
12		0.67	9	ns
13		-5.52	9	.01
14		-0.08	9	ns
	Items 11-20			
01		1.82	9	.10
06		0.91	9	ns
09		-2.77	9	.05
10		-5.77	9	.01
11		1.26	9	ns
12		1.71	9	.10
13		0.06	9	ns
14		8.43	9	.01

Level:		
	$p < .10$	$t > 1.383$
	$p < .05$	$t > 1.833$
	$p < .01$	$t > 2.821$

*Scores were mean student ratings of each Lane College teacher during the second semester.

TABLE 20

T-test on Lane College Faculty by Comparing Pre-Test/Post-Test Scores on the Stanford Teacher Competence Appraisal Guide*

Spring Semester, 1969

Faculty Member	t-value	df	Significance
01	3.14	12	.01
06	-1.20	12	ns
09	0.96	12	ns
10	-5.87	12	.01
11	-3.99	12	.01
12	4.56	12	.01
13	1.65	12	.10
14	4.69	12	.01

Level: $p < .10$ $t > 1.356$
$p < .05$ $t > 1.782$
$p < .01$ $t > 2.681$

*Scores were mean student ratings of each Lane College Teacher during the second semester.

TABLE 21

Difference Scores Matrix for the Purdue
Rating Scale for Instruction for Freed-Hardeman College*

Fall Semester, 1968

Teacher	1	2	3	4	5	6	7	8	9	10	Mean	11	12	13	14	15	16	17	18	19	20	Mean
51	-	-	-	+	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
52	-	-	-	-	-	0	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-
54	-	-	+	-	-	-	+	-	-	-	-	-	+	+	-	0	-	+	+	-	-	-
56	-	-	+	+	+	+	+	+	-	+	+	+	+	+	+	-	+	+	+	+	+	+
58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
59	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	+
60	-	-	+	-	-	-	-	-	-	-	-	+	-	+	-	-	-	-	-	+	-	-
61	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	-
Mean	-	-	+	-	-	-	-	-	-	-	-	-	-	+	+	-	-	+	+	-	0	+

*Difference scores were formed by subtracting pre-test mean student ratings from post-test student ratings of each Freed-Hardeman teacher during the first semester.

TABLE 22

Difference Scores Matrix for the Stanford Teacher Competence Appraisal Guide for Freed-Hardeman College*

Fall Semester, 1968

Teacher	1	2	3	4	5	6	7	8	9	10	11	12	13	Mean
51	+	+	-	+	+	+	-	-	+	-	-	-	+	+
52	-	-	-	-	0	-	-	-	-	-	+	-	-	-
54	-	+	-	-	-	-	-	0	-	-	-	-	-	-
56	+	+	+	+	+	-	+	+	+	+	+	+	+	+
58	-	-	-	-	-	-	-	-	-	-	-	-	-	-
59	-	-	+	-	-	-	-	+	+	-	+	-	-	-
60	-	-	+	-	+	-	-	-	-	-	-	-	+	-
61	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean	-	+	0	-	+	-	-	-	-	-	-	-	+	-

*Difference scores were formed by subtracting pre-test mean student ratings from post-test ratings of each Freed-Hardeman College teacher during the first semester. The +'s, -'s, and 0's reported indicate increase decrease, or no change, respectively, from pre-test to post-test.

During the second semester the Lane College faculty studied the Test Construction treatment. The matrix on the Purdue Scale, Table 23, relates that there were no item mean increases on the first ten items of the scale but that there were six item mean increases on items 11-20, that portion of the scale dealing with testing. Three teachers had mean increases on the first portion, four on the second portion of the scale. Again, a differential effect was evident. Table 24, the matrix for the Stanford Guide, indicates improvement among seven individuals while one person showed a severely negative change. There were increases on six item means and on the means of five individuals, a further indication of a differential effect.

Pre-test/Post-test. The criterion test was given before and after the Test Construction treatment, at Freed-Hardeman College during the fall semester and at Lane College during the spring semester. Table 25 indicates that seven Freed-Hardeman College participants scored an average of 11.0 points on the pre-test and 18.4 points on the post-test for an increase of 7.4 points per teacher. Table 26 reveals that the eight members of the Lane College group scored an average of 10.4 points on the pre-test and 16.6 points on the post-test for an average increase of 6.2 points per teacher.

Frequency of Significant T-Value Scores

Another method of analyzing the data is presented in Tables 27 and 28 which depict the frequency of t-value scores (on items and on teachers) which were either negatively or positively significant. Because of the inconsistency of the results it is not practical to draw clear-cut and generalizable conclusions about the data.

CONCLUSIONS AND RECOMMENDATIONS

There exist many instances of significant differences in the two rating scales, many of them negative values. This could be influenced by an inadequate treatment basis, contamination of the data, improved rater perception, or because of the relationship between the treatment and the rating scales used to gather student reaction to faculty members.

Although the results indicate that the instructional treatments made a noticeable negative difference there is adequate reason to continue the application of methodologies because a need exists for the constant in-service training of instructors in institutions of higher learning. Such training has long range results not immediately seen in class performances. There is also a crucial

TABLE 23
Difference Scores Matrix for the Purdue Rating Scale
for Instruction for Lane College*

Spring Semester, 1969

Teacher	1	2	3	4	5	6	7	8	9	10	Mean	11	12	13	14	15	16	17	18	19	20	M
01	+	+	+	+	+	+	-	-	+	+	+	+	+	-	+	+	+	-	-	+	-	+
06	+	-	+	-	-	+	+	-	-	+	+	+	+	-	+	+	-	+	+	-	-	+
09	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	+	-	-	-	+	+	+	+	+	+	-	-	+	+	+
12	+	+	-	+	+	+	+	-	-	-	+	+	+	+	+	+	+	-	+	-	+	-
13	-	-	-	-	-	-	-	-	-	-	-	-	+	+	-	+	-	+	-	-	+	-
14	-	-	-	-	+	-	+	+	-	+	-	+	+	+	+	+	+	+	+	+	+	+
Mean	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	0	-	-	+	-	+

* Difference scores were formed by subtracting pre-test mean student ratings from post-test ratings of each Lane College teacher during the second semester. The +'s, -'s, and 0's indicate increase, decrease, or no change, respectively, from pre-test to post-test.

TABLE 24

Difference Scores Matrix for the Stanford Teacher Competence Appraisal Guide for Lane College*

Spring Semester, 1969

Teacher	1	2	3	4	5	6	7	8	9	10	11	12	13	Mean
01	+	+	-	-	+	+	+	+	+	+	+	+	+	+
06	+	-	-	-	+	-	-	-	-	-	+	-	-	-
09	+	+	-	+	+	-	-	-	-	+	-	+	+	+
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	+	-	-	-	-	-	-	-
12	-	+	+	+	+	+	+	+	+	+	+	+	+	+
13	+	+	+	+	+	+	-	-	+	0	+	+	-	+
14	+	+	+	+	+	+	-	+	+	+	+	+	+	+
Mean	+	+	-	-	+	+	+	-	+	-	0	-	-	-

*Difference scores were formed by subtracting pre-test mean student ratings from post-test ratings of each Lane College teacher during the second semester. The +'s, -'s, and 0's recorded indicate increase, decrease, or no change, respectively, from pre-test to post-test.

TABLE 25

Comparison of Pre-Test/Post-Test Scores of Freed-Hardeman College Faculty on the Test Construction Treatment*

Fall Semester, 1968

Pre-Test by Item

Faculty Member	1	2	3	4	5	6	7	8	9	10	Total	11(3)	12(5)	13(2)	14(2)	15(2)	Total
51					x			x	x	x	6	3	4	2	1	1	17
52						x	x	x	x	x	5	3		2			10
54	x				x	x			x		6						6
56		x			x	x	x	x	x	x	7	2	2	1			12
58				x	x				x	x	6	2	3	2	1	1	15
59		x		x	x		x	x	x		4			1	1	1	7
61		x			x	x			x		6	2		1		1	10

Total points scored: 77
Mean: 11.0

Post-Test by Item

Faculty Member	1	2	3	4	5	6	7	8	9	10	Total	11	12	13	14	15	Total
51				x				x	x	x	6	2	4	2	2	2	18
52					x				x	x	7	2	4	2	2	1	18
54				x				x			8	3	5	2	2	1	21
56					x		x				8	2	3	1	1	2	17
58				x							9	2	5	2	2	2	22
59									x		9	2	3	2	2	2	20
61^{y}					x			x			8	1	4				13

Total points scored: 129
Mean: 18.4

y Only seven in group at time of pre-test
*Possible total points for each test (pre-test and post-test): 168
x Indicates incorrect answers

Total points post-test:	129
Total points pre-test:	77
Gain:	52
Average gain per teacher:	7.43

TABLE 26

Comparison of Pre-test/Post-test Scores of
Lane College Faculty on the
Test Construction Treatment*

Spring Semester, 1969

Pre-Test by Item

Faculty Member	1	2	3	4	5	6	7	8	9	10	Total	11	(3)	12(5)	13(2)	14(2)	15(2)	Total
01	x	x		x	x			x		x	4	0		0	1	1	1	13
06		x						x	x	x	6	1		0				7
09	x						x	x			7	4		1	2	1	1	16
10		x	x	x	x		x		x	x	3	0		2	1	2	2	10
11				x	x	x		x		x	5	2		2	2	2	1	14
12		x		x						x	7	2		2	1	0	1	13
13	x		x			x	x	x	x		4	1		0	1	1	1	8
14			x	x	x	x	x	x	x	x	3	1		2	1	0	1	8

Total points scored: 83
Mean: 10.37

Post-Test by Item

Faculty Member	1	2	3	4	5	6	7	8	9	10	Total	11	12	13	14	15	Total
01			x		x		x		x		6	2	5	2	2	2	19
06		x		x	x	x	x	x	x	x	2	1	2	0	2	1	8
09	x			x	x		x		x		5	3	2	1	2	0	13
10		x			x	x	x		x	x	4	3	3	1	2	1	14
11									x		9	3	4	2	2	2	22
12	x								x		8	2	4	1	1	2	18
13				x			x		x	x	6	2	5	2	2	2	19
14					x	x	x				7	3	4	1	2	3	20

Total points scored: 133
Mean: 16.62

*Possible total points for each test (pre-test and post-test): 192
x Indicates incorrect answer

Total points post-test	133
Total points pre-test	83
Gain	50

Average gain per teacher: 6.25

TABLE 27

Comparison of Frequency of Significant T-Value Scores of the Faculty of Lane College and Freed-Hardeman College on Items of the Purdue Rating Scale for Instruction and on the Stanford Teacher Competence Appraisal Guide, 1967-1969

FREED-HARDEMAN COLLEGE

Purdue Scale			Treatment	Stanford Scale		
Number of Significant Items				Number of Significant Items		
Semester	1967-68	1968-69		Semester	1967-68	1968-69
Fall	0	9 negative*	Test Construction	Fall	1	5 negative
Spring	0	1 negative	Educational Media	Spring	0	2 positive

LANE COLLEGE

Purdue Scale			Treatment	Stanford Scale		
Number of Significant Items				Number of Significant Items		
Semester	1967-68	1968-69		Semester	1967-68	1968-69
Fall	1	2 negative	Educational Media	Fall	0	10 negative
Spring	0	5 negative*	Test Construction	Spring	0	0

*Based on twenty items.

TABLE 28

Frequency of Significant T-Value Scores of Teachers of Freed-Hardeman College and Lane College on the Purdue Rating Scale For Instruction and the Stanford Teacher Competence Appraisal Guide, 1968-1969

FREED-HARDEMAN COLLEGE

Purdue Scale		Treatment	Stanford Scale	
Semester	Number of Significant Teachers		Semester	Number of Significant Teachers
Fall	Items 1-10 8 1 positive 7 negative Items 11-20 6 2 positive 4 negative	Test Construction	Fall	7 1 positive 6 negative
Spring	6 3 positive 3 negative	Educational Media	Spring	8 5 positive 3 negative

LANE COLLEGE

Purdue Scale		Treatment	Stanford Scale	
Semester	Number of Significant Teachers		Semester	Number of Significant Teachers
Fall	6 3 positive 3 negative	Educational Media	Fall	6 2 positive 4 negative
Spring	Items 1-10 5 1 positive 4 negative Items 11-20 5 3 positive 2 negative	Test Construction	Spring	6 4 positive 2 negative

need for the training of research personnel in developing colleges. The continuance of a program of this nature should raise the probability that a high quality of instructional research will take place on these campuses to improve instructional production. The benefits of a long range program are most ardent in the development of adequately trained personnel to carry out instructional research, the increased interest of faculty members to participate in research, and the development of a structure through which research can take place.

A revision of treatment for the third year's program will center around making the instructional treatment segments more specific in order to secure more significant results. The instructional treatment will focus upon a topic not generally studied by faculty members of higher educational institutions. A major problem with the two instructional treatments that were given during the 1968-69 program centered on two topics with which faculty members were familiar. The choice was considered sound because the basic strategy for both years of the Consortium was to revitalize an interest in already used teaching techniques and thereby create a climate of acceptance for treatments related to newly emerging knowledge.

It is recommended that an additional year be given to this program during which the writing of instructional objectives would be studied by both groups during the fall semester. The selection of instructional objectives helps determine the quality of courses taught in colleges and universities. Bloom's Taxonomy will be used as a classification method for ascertaining the psychological dimensions of these objectives. The micro-teaching procedure would again be used as an instructional technique to establish communication levels and realistic classroom objectives.

During the second semester, the three-year program and its implications to the developing institutions will be the primary focus and contribution. Three conferences will be held to deal with instructional processes, research processes, and program implications.

APPENDIX A

TEST CONSTRUCTION TREATMENT AND CRITERION

INTRODUCTION

Objectives:

This unit on testing and evaluation has underlying it four major objectives; if they are realized, the quality of testing should improve in the following areas:

I. Test design. Teachers using this unit should be able to design three types of tests:
   A. Performance Tests
   B. Essay Tests
   C. Objective Tests

II. Item selection. Teachers using this unit should be able to appraise a given body of material and select:
   A. The appropriate type of test
   B. The appropriate type of items for valid and reliable testing

III. Unit design for good evaluation. Teachers using this unit should be able to form units which lead to suitable tests in terms of:
   A. Stating behavioral objectives
   B. Establishing performances to determine satisfactory completion of learning tasks
   C. Drawing straight line relationships between objectives of the course and testing items

IV. Differentiated testing. Teachers using this unit should be able to identify and define the differences between testing for information (subject matter) and processes.

Resources:

Books: Bloom, B. Taxonomy of Educational Objectives.
Mager, E. Preparing Instructinnal Objectives.

Audio-Visual: VIMCET Filmstrip on Evaluation (with audio tape)

Unit Plan:

This unit on testing is divided into eight lessons. The first lesson will be a pretest; the last lesson is a unit test. Therefore, the six intervening lessons will be:

A. Testing and evaluation as part of the total learning process. In this phase, testing will be considered as part of the total experience whereby one is said to have "learned," and a special attempt will be made to establish the notion that good testing is an essential part of the learning process.

B. Setting behavioral objectives. In this phase the overt behaviors which serve as visable and measurable signs of learning will be considered, with special attention to the statements and forms of objectives.

C. The third phase will concentrate on two criteria for test evaluation: validity and reliability. In this phase, two relationships will be demonstrated:
   1) The relationship between objectives and test instrument (validity)
   2) The relationship between consistency of performance and the test instrument.

D. In this lesson, the problem of appropriate type of test will be considered. The advantages and disadvantages of each type of test will be discussed, along with different forms for obtaining the same type of information. General statements of validity and reliability for each form will also be given.

E. The fifth phase will be designing the objective test. Because an objective test can be one of the best evaluative instruments if properly structured, special attention should be given to proper test design in order to obtain maximum benefits from this type of test. Also, a process for evaluating the type of information in the test will be explained.

F. Testing and the learner. Because no test ever exactly corresponds to the real, non-measureable learning that takes place in a given learning experience, this phase will discuss, in general terms, some of the psychological pitfalls inherent in the testing process and attempt to establish some alternatives to formal testing by which a learning experience can be evaluated.

Assignment for meeting two

List three objectives from a unit you are now teaching. Be as specific as possible. Then list five test questions designed to evaluate these objectives. From that, try to deduce as many methods as possible which realize the objectives.

LESSON ONE

TESTING AND EVALUATING AS PART OF THE LEARNING PROCESS

Transparency One

Can you list four reasons for testing in addition to giving a grade?

Overlay

For each of the reasons stated below which you have on your paper, give yourself five points.

1) To determine if the objectives of the course have been achieved (Or part has to be re-taught)
2) To determine which methods have been most effective as teaching devices
3) To give students a chance to express feedback or an opportunity to "use" their learning to demonstrate a process mastery
4) To locate some areas of individual abilities, strengths and weaknesses

And,

5) To establish some points of transition to a new unit
6) To determine which of the ideas in the unit were most popular

Transparency Two

Read the objective stated below and the test of the objective below it. Why will the test fail to measure achievement in terms of the objective? Give two reasons. Give yourself ten points for each correct one.

Object: The objective of this lesson is to enable a student to recognize three death metaphors in a given poem by relating them to nature.

Test: What metaphors in this poem pertain to death?

Overlay

1. The objective asks for a relationship (death metaphor and nature) Test only asks for simple recognition.

2. The question doesn't ask for a specific number or an explanation. Perhaps the students see other metaphors of death and nature which the instructor hasn't seen. By having a chance to write, he may have chance to express his own value on the poem.

Points to be established:

1. Testing is related to total experience of the unit; it is part of the learning experience and should evaluate the instructor, the material, and the methods and the student.

2. There is a definite relationship between objectives and evaluation. A test which embraces this relationship is a valid test.

3. The methods used in the unit must have a lineal relationship to objectives and tests. For instance:

Suppose that you wanted to teach a student to change a tire on a car, and that you had gone through all of the steps in this form, without pictures or any illustrative material:

a) Set handbrake
b) Take jack out of trunk and jack up car
c) Remove hub caps
d) Loosen lugs and remove flat tire
e) Remove lugs from wheel
f) Take spare from trunk and place on lug bolts
g) Tighten down lugs, replace hub cap
h) Place flat in trunk, jack down car
i) Release brake, drive away

What are the chances that the student, actually confronted with a car as a test, could successfully change the tire? The methods were not in line with the objective and the test.

To get successful testing, one may ask these questions:

1) Do I have objectives which let me know when the student has performed to a successful level?

2) What skills and competencies are necessary to achieve the objectives? What will enable him to perform well on this objective?

3) What methods will best teach the skills and competencies necessary to realize the objectives?

4) Does my test ask the student to use the skills and competencies in the right order in order to achieve my objectives?

And occasionally,

5) Where did I fail?
or
6) Where did he fail?

Summarize

Next Week:
Constructing objectives. Read Mager, Preparing Instructional Objectives.

LESSON TWO

BEHAVIORAL OBJECTIVES

1. In the simplest terms, behavioral objectives involve two basic aspects:
   1) Overt, measureable objectives, action that can be observed and measured by some sort of standard

and

   2) Stop points- points of competence whereby the teacher has determined that the student has reached the point of diminishing returns. It is either time to change the task or to make it more sophisticated.

The good objective has both of these qualities. It asks for a certain type of objective behavior, that is, behavior which two people can see and agree upon according to a certain set of criteria. It also asks for certain stop points, points which demonstrate competence to a certain degree if not total mastery.

2. The filmstrip and the audio-tape. . Look for three properties in each of the objectives stated)

   1. Does the objective ask for a certain action to be performed, and is the action overt, that is, does the learning process make the student modify his behavior in some way which the teacher considers desirable and indicative of learning?

   2. Does the objective set forward a stop point, or a level of mastery (or competence) to be achieved? Can you tell certainly when the stop point has been reached?

   3. Can you see how this process learned could be an enabling process (or skill) necessary for a more complicated operation?

3. Mager points out that certain words are better than others as forms for stating instructional objectives. Of the words given below, some are too general for use as behavioral objectives, some are useful, but rather inspecific, and others call for fairly specific behavior. Using the symbols P (poor), F (fair), and G (good), pick out the proper symbol for each of the phases given below.

1) To understand the reasons for...

2) To make up a bar graph showing...

3) To show the relationship...

4) To analyze three types...

5) To ascertain two ways of...

6) To demonstrate that...

7) To know the cause of...

8) To define by function

9) To derive four math functions...

10) To be aware of the effects of...

Overlay with correct answers imposed over test.

The type of objectives outlined in the VIMCET filmstrip and the Mager book may be too simple for adult education or complex courses. However, the principle articulated in these resources can be applied to more complex material.

Transparency Four

Think about an objective for a college course. Is it possible to combine several types of behavior in the same objective? Try to construct about four objectives which ask for at least two observable behaviors. Remember, the idea is to modify random behavior into productive behavior.

Overlay

Examples

1. *List* four reasons for the fall of the Roman Empire, and then, in twenty minutes, *relate* each of these causes to the conditions which led to the rise of the Christian Church.
2. *Define* the types of actions commonly considered "political". Then, *list* three character attributes which Livy considered particularly "Roman". In a short essay, *demonstrate* how the "Roman" attitude modified life activities into "political" activities.

It should be quite obvious from these brief examples that behavioral objectives can be as complex as the material being taught. *The key rule is to proceed from simple behavior responses to the more complex ones based on the simple ones*.

Exercise: for Assignment

Reconstruct three objectives of four already written in terms of sequential* behavior, beginning with simple behaviors (listing, stating, defining) and then proceeding to the more complex (deriving, relating, demonstrating). Try to build your stop points into the objectives. You will be surprised at how much this preliminary activity will eliminate wasted time in class and at how the quality of testing will improve. The basic reason for this is that, as you define and modify the behavior of others, you increase your own sense of dynamics, methods, and closure. You modify your *own* behavior in modifying theirs.

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*By a MULTIPLE OPERATION we mean the combination of at least two behavioral operations in sequence.

LESSON THREE

VALIDITY AND RELIABILITY

The relationship between objectives, methods, and the test given, in terms of the test, is called the Validity of the test. In essence, it is a test of fairness of objective and methods, not only in terms of fairness to the student, but also in terms of the integrity of the teaching process itself. The idea of validity is developed most completely in statistical analysis but that is too detailed for a short course.

For our purposes, however, perhaps we can think of validity in its non-statistical form. The most direct relationship which a valid test establishes is a correspondence between objective and evaluative instrument. The higher the correspondence between the objective and the test item, the higher the validity, generally providing that the secondary relationship between objective, method and evaluative instrument is observed. That means, in simple terms, you will realize your objectives if the methods develop the skills and competences set out in the objectives.

Transparency Five

Supposing, that as a teacher in a poetry class, you wanted to have the class write limericks. Given this definition of a limerick, what would your objectives be? How would you arrange a sequence of teaching it? How would you test it?

> "A limerick is a humorous five line poem form, rhyme pattern A-A-B-B-A, and it relies on a special set of circumstances, usually given in the second line, to establish its humorous character. It also generally uses alliteration as a humorous device."

Overlay

1. Objective. To have each student be able to write three humorous limerick with a A-A-B-B-A pattern, and ironic or unusual condition stated in the second or third line, and using alliteration in the last line.

   What word in this objective is not behavioral? Why would it be hard to totally realize this objective?

2. Method. Give several examples to class. Pick out rhyme schemes. Have class compare the second lines for irony, unusual situations. Discuss how irony is developed in third, fourth and fifth lines. Show how alliteration points up irony, ask class to generalize about desired effect. Practice a few for them.

3. Test. Have them construct their own limerick. You should know what you are looking for, and this should be a valid test of the objective.

For fun: There once was a chavelier named Gates,
Who was quite a wizard on skates,
He fell on his cuttless, it rendered him tuftless
He's now quite desperate for dates.

Have students analyze a test from history or from the literature department in order to ascertain two things:

1. Is there a sense of correspondence between the test items and the implicit objective of the unit?

2. Are there terms used in the test which would tend to lead students astray. (Ex., "Humorous" in the definition of limerick is difficult to interpret.)

Reliability

In general, reliability is another relationship; this time it is the relationship between the material and the consistency of the person examined. In simple terms, if a person is given a reliable test on learned material or processes, he will be able to take the same test in another form and do about as well as he did previously.

Transparency Six

Examine the following statements and questions. Can you see that they are in some sort of rank order? How, specifically, is the first example different from the last example? Which question, just by the form, would you rather write on? Which would be most reliable as a measure of true learning? Assuming that these are questions or tasks from a college course, which would you be able to write on next week? Next year?

1) Tell everything you know about the rise of the Medieval Church.

2) Why was there a Medieval Church?

3) What factors contributed to the rise of the Medieval Church as an economic institution which set economic standards during the Middle Ages?

4) Why was Pope Gregory VII extremely concerned about the sale of clerical offices, and how does his concern show increasing awareness of the role of the Church in all phases of Medieval life?

5) Of the three major influences which made up Medieval life, list one major institution which bore traces of all three and then demonstrate, through the documents used in class, how each of these influences was carried in laws, commentaries, or catalogs of the literature of the institution.

Overlay

In comparing the extremes, we see that the first question is so general that almost no one would seriously consider it. No criteria are established in the question--any datum used would be fair game. The last question, on the other hand, requires a quite specified answering process. One could change this question by specifying the institution without too much affecting the answering ability of the student who has "learned".

Point

The reliability of a given test can be increased by the amount of concentration on process detailed in the question. How do you want the student to answer it? By knowing how you want the student to answer it, you will know better why you want the student to answer it. And, if that sense of purpose has been implicit in the objectives of the unit and the methods of the unit, you probably will increase the reliability of the test in general.

Summarize
Assignment

For the next lesson, please bring an example of an objective test and one essay test that you have given. In the objective test, take five items at random and write the thought process that you were trying to have the students use to solve the question. Then consider the essay exam in the same manner, try to find out those things that you expect the student to do in answering the question.

LESSON FOUR

TYPES OF TESTING

The type of test one selects for a given unit will depend on two principal criteria:

1) What did the teacher ask the student to do in his objectives?

2) What skills and insights were developed through the methods of the classroom experience that can be tested?

A corrolary to No. 2 may be testing of processes developed. What research and inquiry processes were developed during the unit, and how are these most appropriately tested?

While Nos. 1 and 2 should be fairly well understood as a result of the previous lessons, the corrolary may need additional illumination.

Every teacher probably uses some process in the design of a unit, and he may use several at the same time without being cognizant of them. When a teacher works from the specific to the general, or the general to the specific, he is probably using some process whereby the material is made systematic, rank values of importance are assigned to data, and ideas are presented with a sort of underlying logic. This system or process is seldom tested in the overwhelming majority of exams, however. In fact, most units are presented on a rather day to day basis without a strong sense of category and continuity to the student, so perhaps some of the best part of teaching is overlooked - it remains the property of the instructor and the student sees the unit as a body of information to be assimilated rather than as a process of inquiry to be mastered.

Transparency

In setting up a unit, one can become aware of the underlying process he is actually teaching by asking himself the following questions:

1) What values underlie the material I am presenting? Why is this information necessary for a true understanding of the course?

2) What specific ideas can be illustrated through the subject matter of this unit? Can they be arrived at inductively? Can they be measured with some objectivity?

3) What skills are necessary to develop this unit (data) into objective generalizations?

(4) Is there a priority or order of ideas to be mastered in order to provide a sense of continuity to the course?

5) Is there room within the context of both subject matter and values of the student to test his own motions and to contribute to the dialogue of the class?

Overlay

Note that the process invloved in this question pattern is a process leading from the subjective to the objective, values and norms to measurable skills and methods.

Note: Designing units for process is not a skill which is mastered in two weeks or even two years, sometimes. Rather, it is a skill mastered through continued awareness, and progress in it can be measured by transition from formal teaching, the teaching of forms, to functional teaching, the teaching of functions. Independent projects are a good test of functional teaching.

Transparency

Testing for function can be accomplished through any of the three common means of examination - essay exams, objective tests, or performance tests. Let us take each of these three and see how each can be effectively used. The objective test will be treated as a separate unit in the next lesson.

1. Performance tests. The performance test is a very effective test for process and skills because there is a high degree of correspondence between objective and test. In a previous example, we mentioned changing a tire. A performance test for this objective would be to have a student actually change a tire. Other more sophisticated tests would be to have students actually write a poem, a short story, a book, design an experiment in science and carry it out according to certain standards, designing a system for solving a problem, or producing a conceptualized model of a certain molecule. The best test of a performance exam is that it puts something tangible into the hands of the student which he has created by following a set of procedures.

Transparency

2. Essay tests. An essay test is probably the easiest type of test to construct, but the hardest type to correct and evaluate. However, to more thought that goes into the construction of an essay test, the better the general testing will be.

The essay test can be anything from a direct question to a proposition* which can be treated according to a thought process.

In the following examples, note the processes involved in setting up the question and what the student is asked to do in answering the question:

A. What factors led to the South's defeat in the Battle of Gettysburg? (Descriptive - Recall)

B. List three tactical errors which General Lee made at the Battle of Gettysburg and analyze them in terms of chronological sequence demonstrating that one error led to the other.
(Analytical - recall, interpretative)

C. In discussing military history, one can talk of warfare in terms of strategy and tactics. Strategy can be thought of as the rationale of the campaign, the objectives whereby one force will achieve some major goal which the antagonist does not want him to achieve. Tactics, on the other hand, connote the idea of field operations. These operations are the 'how' of the encounter whereby the enemy is manuevered into positions whereby his objectives are frustrated and he will be destroyed as an efficient fighting force with acceptable losses to your forces.
With these definitions in mind, read the account of the Battle of Gettysburg. Then state whether you believe that for the South this was a strategic defeat or a tactical defeat. Be sure to cite at least three factors in the account that confirm your thesis; then compare this battle to the other two battles studied during the unit and give a rationalized decision as to which battle was most successful in terms of strategy and in terms of tactics. You may wish to cite two different battles in answering this.

(Propositional question, recall, generalization, evaluation, and interpretation in a comparative sense.)

Note these three questions. What is the process required in each? How is the objective obvious in each? Can you see three separate aspects in the third question? (Definition, analysis, comparison-judgment). A view of the functionality of the third question can be seen by the simple observation that this is the type of question which would be given in a course on planning for potential Army officers.

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* A propositional question is one which puts forward a premise which has to be considered in answering a question.

Transparency

The fundamental process in test design is basically simple.
A test can be seen as involving three distinct processes:

1) Recall
2) Recall and generalization
3) Recall, generalization, and interpretation

Recall tests the memory and should probably be limited to factual information and the simple generalizations which are made on direct, factual data.

Generalization occurs on several levels. A good way to see this is to visualize a set of conditions which are necessary to make a given generalization: they may go beyond the data in that they are true conditionally.

Interpretation generally means cause and effect thinking, systems design, and location of conditions which make phenomena comparable within a given frame of reference. Skills generally have to be developed before this type of question can be answered.

Assignment:

Review the last assignment from the point made in lesson four; list two factors you would try to include in objective tests.

LESSON FIVE

OBJECTIVE TESTING

Transparency

It is common knowledge that objective tests are easier to grade than essay tests. Can you give three reasons, in addition to this, for using objective tests?

Overlay

Here are some, possibly all, of the reasons for using objective testing. If you have two of these, you have done well.

1) They have a broader scope; more information can be tested in an objective test than can be tested in an essay test.

2) They make students have a greater degree of accuracy of data; there is less room for the student to "weasel" around the answer. You know if he really knows it or is just fishing.

3) They tend to make the group more comparative in that each student is asked to encounter the same data and treat it in the same way, making it easier for the instructor to discriminate as to who knows and who "really" knows.

4) They are more treatable statistically. It is easier to compare tests against each other, and the statistical evaluations of reliability and validity run much truer for objectives tests.

5) They generally make re-teaching easier for one knows precisely which areas need attention.

Transparency

Can you now list three disadvantages for objective tests? Here are some of the most common criticisms.

Overlay

1. They usually miss the broad, 'power'* generalizations which cannot be developed in the short form of objective items.

2. They deny the student an opportunity for dialogue, the chance to put forward an individual premise from his own reading.

3. They are often menial or insignificant in their scope: many items will require such fine discriminations as to be meaningless.

4. They often rely too much on recall to the exclusion of other processes stressed in the unit.

5. They are often too much either/or, assuming that there are "right" answers to interpretive questions.

Types of Items in Objective Tests

Transparency

Can you list five different types of items commonly found in objective tests? Can you tell how reliable each of the five would be and under what conditions it would be most reliable?

Overlay

1. Multiple Choice.	High reliability, generally. Little chance for guessing.
2. True and False.	Poor reliability; too much chance for random guessing. A score of 50% would be a random score.
3. Matching Items.	Generally high reliability; requires fairly exact knowledge. Reliability is increased highly by giving several more answers in the matching column than in the question column. Poor for generalizing.
4. Indentification.	Hard to generalize. Too much depends on what the instructor wants students to identify.

*A Power generalization is one which articulates a principle of social operation, such as "The Roman Empire was structured by two major influences, the Tribal 'Genus' structure and the Greek concept of Hellenistic universality." This is so broad that you may want to ask smaller, data questions. It is also difficult to make up good "wrong" items in testing this.

5.	Completion or Fill in Blanks.	Harder to correct, generally, but very good. Sometimes unreliable, though, in that students will write in correct phrases rather than a single answer. Good for specific terms.
6.	Short Answer.	Generally good for data questions, "yes" and "no" type answers. Hard to make good, discriminating answers, however. About as reliable as the instructor.

These are so generally used that examples are unnecessary. The most complicated are multiple choice, and they will be dealt with later.

Processes in Objective Testing

Transparency

Examine the following questions. Write a short statement on what each question asks the student to do.

1. Which of the following Roman Emperors did not persecute Christians as a matter of state policy in the Roman Empire?
   A) Caligula (Gauis Caesar) B) Tiberius Caesar
   C) Nero D) Marcus Aurelius

2. Which of the following would most historians agree was not a cause of the fall of the Roman Empire?
   A) The barbarian incursions across the Rhine B) The failure of the Empire to set up a smooth and peaceful transfer of power from one emperor to the next C) The breakdown of the Christian Church as a formal institution because of the persecution of the Caesars D) The failure of the Senate to preserve its decision making ability after the establishment of the Empire.

3. If one accepts Mr. Pirenne's thesis that the Roman Empire survived as an economic unit long after the collapse of Rome as a political force, which of the following statements could not be true?
   A) The Vandals effectively blocked Mediteranean trade by the Romans for the better part of the sixth century.
   B) The Roman Fiscus survived the collapse of the political state and continued to issue a coin of the Realm in function if not in form.
   C) The provincial cities managed to keep open trade routes with the East.
   D) The Roman Army in the provinces managed to survive the collapse of the central administration with the aid of local chieftans.

Transparency

Question one is simple recall.
Two is historical generalization.
Three is recall, generalization, and analysis.

This is the same process alluded to in the previous lesson.

Exercise:
Can you, from your subject matter, design one question of each type for your own subject? Note that the third type question is essentially propositional in nature and comes very close to the essay question.

Designing the Multiple Choice Question

Transparency

The multiple choice item generally has four (and occasionally five) answers. The selection of answers can be developed through formula.

One choice answers the question exactly.
A second choice nearly answers the question - it is close enough to distract the good student. An example in Question One was Marcus Aurelius, one of the "Good Emperors" who did persecute Christians.
The third answer is generally appropriate to the question, but is the opposite of the right answer and the distractor.
The fourth answer will generally be an "out of the ballpark" answer. It won't answer the question.

In designing the test, it is generally psychologically good to have a few, easy "warm up" questions at the beginning to reduce the tensions inherent in testing. Then some easy "give away" questions should be thrown in for the student who has done the reading but isn't sharp. He has to do better than the guy who has slept through the classes and hasn't done the reading.

No Assignment: Review the main points to date.

6. A good test is a multiple operation; it is designed for simple operations leading to complex operations.

7. Objective tests and essay tests can test the same processes; the objective test makes the student recognize the precise operations, to discriminate between right and wrong or the logical and the illogical. Essay tests ask the student to apply information or processes himself in a general way. Both will be generally as good as the ability of the instructor to determine what he wants.

Transparency

From your own experience as a student, can you cite at least three aspects of testing which have not been observed in this short unit?

Overlay

1. Statistical analysis of exam-scores for standard deviation, validity, and reliability.
2. The use of item analysis.
3. The use of rubrics in scoring essay exams.
4. The psychology of testing.
5. Testing for affective behavior, values, and morals.

Why were these areas not developed in the unit?
Overlay

1. They may tell you more about the subject than you care to learn.
2. They require more time and study than the boundaries of the unit permit.
3. Many of these are unresolved areas of testing. We frankly do not know the answers to some of the questions posed by the idea of testing.
4. The skills presented are relatively simple ones, and, yet, no teacher is going to really implement these tomorrow. The skills not covered are, for the most part, more sophisticated than these, even though some have been around longer.

Limitations of the unit in terms of testing for learning.

Transparency
Imagine that you are a student in a history class conducted by one of the other staff members presently in the room. (Any member) Can you cite three aspects of American history or life in general which really could not be tested on an exam?

Overlay

There is no specific set of answers for this question, of course. But here are a few very general suggestions:

LESSON SIX

SUMMARY AND STATEMENT OF LIMITATIONS

Summary

Perhaps an appropriate question is, 'When do I test?' Perhaps this should have been discussed earlier, but the meaning of test had to be established. The answer to this question can be stated as three conditions:

1. At the beginning of the unit, in order to establish the sophistication of the class, to see what must be stressed, and to see what skills must be developed.
2. During the unit when each set of 'enabling' skills is developed. These are the reading and research skills, or possibly term use skills, that will enable the student to carry out a larger operation.
3. At the end of the unit when the teacher wants to:
    a) See if the student is in control of the data of the unit.
    b) Establish that the students can use the processes of the class with reasonable performance proficiency.
    c) Establish what has to be re-taught in order to make the next unit somewhat dependent upon prior learning.

All of these are bona fide reasons in determining when the students are to be tested.

Transparency

Summary of points in the unit:

1. Testing is a legitimate part of the learning process in that it asks the student to use the skills, insights, processes, and structures of the unit.

2. Giving grades is a relatively minor aspect of the testing process even through this function receives major emphasis today.

3. Testing is an evaluation of objectives, methods, and teaching technique, in addition to the measurement of student retention or mastery: well-taught items will be visible in an item analysis of the test.

4. Testing is best accomplished by describing the behavior that one goes through in a given thought process and by testing these in specific terms incorporating stop points, or levels of achievement, which denote the satisfactory completion of objectives.

5. A good test question is conceived in two aspects: What processes do you want the student to go through? Where do you want him to be when he has been through the process?

1. There is no way for the instructor to test how the students perceive what history means to the character of the instructor or to his life goals and motives for being where he is and doing what he is doing.

2. There is no way to really determine how much expression the student has found in his own needs from the course. Is the student more secure? Is he less frustrated as a result of the course?

3. How does the student see the basic values of method as a result of the class? Can he now enter into other dialogues as a result of those things which have gone on in class. Does a teacher bring a student around for this type of behavioral change?

In essence, the good teacher teaches himself what he is. Information will be forgotten from disuse, as will skills and process, eventually. What is generally remembered is the attitude or stance which the instructor took toward the world and how he expressed it through the subject matter. So, a teacher never can be exactly sure of his effectiveness as a teacher, or, for that matter, who his "best" student is.

Recapitulation
Transparency
As a result of going through this program, you should be able to do the following things:

1. Write a short paragraph on the purpose of each unit which:
    a) Describes a body of subject matter to be taught
    b) Ennumerates at least four ideas or concepts to be mastered
2. List at least four multiple operations for the unit, some of which may repeat those done in other units.
3. Construct five behavioral objectives for the unit with stop points.
4. Clearly differentiate between essay questions which ask for recall and those which ask for some sort of interpretation.
5. Design five test questions, either objective or essay, which have a one to one relationship with a behavioral objective. (Validity)
6. Write two essay questions in a propositional form.
7. Be able to clearly state the difference between essay tests, objective tests, and performance tests.
8. Using a standardized test with multiple choice items, be able to clearly distinguish a right answer, a distractor, a wrong answer, and an inappropriat answer.
9. List at least five types of objective items for testing.
10. Cite three aspects of learning which a test does not usually measure.

Assignment: Your next meeting will be a final exam; for this exam, you may take any eight of the behavioral objectives listed above and write on them. If you choose No. 8, please bring a question from a standardized exam with you for analysis.

At the end of the exam, will you please evaluate the unit in terms of:

1. How helpful (or unhelpful) it has been to you,

   and

2. Which areas of the unit do you feel should be improved. Please refrain from highly generalized answers as modifications require specific descriptions of program weakness.

Repeat Pre-test Examination.

CRITERION TEST

1. Which of the following statements best describes the characteristic of validity in a test?

   A. When the test clearly describes a process to be followed in completing the test, it is a valid test.
   B. When the test items clearly attempt to measure the learning set forward in the objectives of the unit, the test is valid.
   C. When the student performances do not vary on two forms of the same test, the test is valid.
   D. When all of the items of the test are stated in the same form, the test is valid.

2. A good test will evaluate all of the following except:

   A. The methods used by the instructor in achieving his objectives.
   B. The objectives of the course.
   C. The ability of the students to perform in a given way.
   D. The values which the student holds toward the subject matter.

3. When we speak of behavioral objectives as desirable teaching goals, we mean:

   A. That objectives are best conceived for teaching purposes as a set of observable and measurable actions which should be "programmed" into the objectives of the unit.
   B. That all testing is really a test of the innate character of the student, and the purpose of testing is to make him "good" in a moral and ethical sense.
   C. That learning is a purely internal and intellectual experience that does not manifest itself through overt actions.
   D. That the teacher's behavior, his overt acts, will serve as a model for student actions and the students will learn through imitation of him.

4. Which of the following processes are best tested by a propositional form of essay test?

   A. The process of recall.
   B. The process of recall and generalization.
   C. The process of recall, generalization, and interpretation.
   D. All of these can be tested equally well by this form of test.

5. In structuring objectives for a unit in a given field of study, which of the phrases given below would be least effective for building good testing around objectives?

   A. "Show the ways in which..."
   B. "Demonstrate through three examples the..."
   C. "To derive four math functions from..."
   D. "To be able to list three reasons for..."

6. In setting instructional objectives, the idea of a stop point means:

   A. That the instructor definitly knows when the unit will end.
   B. That a definite performance level is established for each objective of the unit.
   C. That a point is established where formal instruction stops and informal instruction begins.
   D. That a point is established where all of the objectives of the unit have been realized.

7. In testing for student ability to interpret materials, it is most important that the data presented in the class be:

   A. Structured in such a way that lines of thought emerge clearly.
   B. Be presented in a purely random fashion so the student must sort through it for himself.
   C. Broad and inclusive enough to make generalization possible.
   D. All of the above could be true, depending upon what the teacher wanted students to be able to do in a particular question.

8. Which one of the words listed below does not logically belong with the other three?

   A. Objectives
   B. Methods
   C. Subject Matter
   D. Tests

9. When we speak of the reliability of a test, we are speaking of:

   A. The relationship or correspondence between the test and the objectives and methods of the unit.
   B. The relationship between two individual or group performances over the same material given in the same form.
   C. The relationship between true ability and grade given on the test.
   D. The relationship between the test items and the subject matter to be covered.

10. In designing a good multiple choice item, the best form is considered to be, in any order, a right answer, a nearly right answer, an opposite answer from the right answer, and an "out of the ballpark" answer. Which of the questions on this part of the exam most clearly violated this principle?

   A. Question three
   B. Question five
   C. Question six
   D. Question nine

As a result of taking the first part of this pre-test, can you state in fairly specific terms three objectives which we will try to realize in the next fifteen weeks?

1.

2.

3.

From the questions given above, can you write definitions for five terms which will be used in this unit that apply to constructing effective tests?

1.

2.

3.

4.

5.

Using your subject matter, can you design one objective question and one essay question that involves the process of data recall?

1.

2.

Again from your subject matter, can you design an objective question and an essay question which uses the processes of recall and generalization?

1.

2.

Lastly, and again from your subject matter, can you design an objective question and an essay question which require the process of recall, generalization, and interpretation?

1.

2.

APPENDIX B

EDUCATIONAL MEDIA TREATMENT

OVERHEAD PROJECTOR AND TRANSPARENCIES

I. Communication In The Classroom

  1. Terminology
  2. Research

II. Advantages

III. Nomenclature

IV. Classroom Arrangement

  1. Screen angles
  2. Other considerations

V. Method Of Using Transparencies

  1. Revelation
  2. Overlay

VI. Preparation Of Transparencies

  1. Types of material
  2. Other materials

VII. Bulb (Lamp) Replacement

BULLETIN BOARD

I. Planning A Bulletin Board

1. Decide on a subject
2. Work out a caption
3. Gather the materials
4. Plan the arrangement
5. Plan the lettering
6. Execute plans and evaluate

II. Physical Characteristics

1. Location
2. Construction
3. Lighting
4. Size
5. Tools and supplies
6. Improvisation

III. Evaluation

1. Theme
2. Lettering
3. Color
4. Cluttering
5. Captions
6. Texture
7. Interest
8. Learning value

IV. Functions Of Bulletin Boards

1. Availability of more materials
2. Stimulation of interest
3. Saving of time
4. Student participation
5. Review
6. Communication

PREPARING 2" x 2" SLIDES

I. Camera

  1. Kodak Instamatic 304
  2. Other 35mm cameras

II. Film

  1. Kodachrome-X
  2. Ektachrome-X color slides
  3. Verichrome Pan (Black and White)

III. Copy Stand

  1. Kodak Ektagraphic Visualmaker
  2. Others

IV. Loading

V. Unloading

VI. Processing

FILMSTRIP AND SLIDE PROJECTOR

I. The Equipment, A Review Of Its Operation

1. Classroom filmstrip and slide projector (includes auto-load)
2. Carousel projector
3. Previewer
4. Combination filmstrip and record player
5. Theory of projection, including reversal of image

II. Practice In The Operation Of The Equipment (Each seminar member should operate each piece of equipment. Those familiar with the operation can teach others.)

1. Loading of magazine or drum
2. Single loading
3. Framing of projected image on filmstrip

III. Discussion Of The Uses And Sources Of Films And Filmstrips

1. Uses that seminar members have made of the equipment
2. Brainstorming about other possible uses
3. Catalogs and other sources as examples of material

THE TAPE RECORDER

I. Review Of The Operation Of The Tape Recorder

1. How it operates
2. Kinds of tape recorders
    1) The usual classroom machine
    2) Battery operated recorders
    3) Stereo models

II. Practice In The Operation Of The Tape Recorder, Including Recording And Playback
(Each seminar member should learn to operate the classroom and battery operated recorder. Those already familiar with their operation can teach others.)

III. Discussion Of Uses

1. Uses that seminar members have made of tape recorders
2. Other uses possible suggested from readings and other sources (brainstorming at this point)

IV. Language Laboratory Demonstration When Time Permits

16 m.m. MOVIE PROJECTOR

I. The Machine, Its Operation And Uses

  1. Principles of operation
  2. Threading and operating the machine by seminar members

II. Uses Of The Motion Picture

  1. Misuse emphasized
  2. Proper usage
     1) Selecting the film
     2) Introducing the film (emphasis upon achieving proper set in the class)
     3) Reviewing and reshowing the film

III. Sources Of Films

APPENDIX C

PURDUE RATING SCALE FOR INSTRUCTION

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THE PURDUE RATING SCALE FOR INSTRUCTION

Name of Instructor ____________________ Course ____________________ Date ____________________

This rating is to be entirely impersonal. Do not sign your name or make any other mark on the paper which could serve to identify the rater.

1. Interest in Subject...........	____ ____ ____ Always appears full of his subject.	____ ____ ____ ____ Seems mildly interested.	____ ____ ____ Subject seems irksome to him.
2. Sympathetic Attitude toward Students...............	____ ____ ____ Always courteous and considerate	____ ____ ____ ____ Tries to be considerate but finds it difficult at times.	____ ____ ____ Entirely umsympathetic and inconsiderate.
3. Fairness in Grading...........	____ ____ ____ Absolutely fair and impartial to all.	____ ____ ____ ____ Shows occasional favoritism.	____ ____ ____ Constantly shows partiality.
4. Liberal and Progressive Attitude......................	____ ____ ____ Welcomes differences in viewpoint.	____ ____ ____ ____ Biased on some things but usually tolerant.	____ ____ ____ Entirely intolerant, allows no contradiction.
5. Presentation of Subject Matter......................	____ ____ ____ clear, definite and forceful.	____ ____ ____ ____ Sometimes mechanical and monotonous.	____ ____ ____ Indefinite, involved, and monotonous.
6. Sense of Proportion and Humor....................	____ ____ ____ Always keeps proper balance; not over-critical or over-sensitive.	____ ____ ____ ____ Fairly well balanced.	____ ____ ____ Over-serious; no sense of relative values.
7. Self-reliance and Confidence..................	____ ____ ____ Always sure of himself; meets difficulties with poise.	____ ____ ____ ____ Fairly self-confident; occasionally disconcerted.	____ ____ ____ Hesitant, timid, uncertain.
8. Personal Peculiarities.........	____ ____ ____ Wholly free from annoying mannerisms.	____ ____ ____ ____ Moderately free from objectionable peculiarities.	____ ____ ____ Constantly exhibits irritating mannerisms.
9. Personal Appearance...........	____ ____ ____ Always well groomed; Clothes neat and clean.	____ ____ ____ ____ Usually somewhat untidy;gives little attention to appearance.	____ ____ ____ Slovenly; clothes untidy and ill-kept.
10. Stimulating Intellectual Curiosity....................	____ ____ ____ Inspires students to independent effort; creates desire for investigation.	____ ____ ____ ____ Occasionally inspiring; creates mild interest.	____ ____ ____ Destroys interest in subject; makes work repulsive.

PURDUE (Continued)

Note to Students: Following is a list of factors which are important to many courses but over which the instructor often has little control. You are asked to rate the course on each of the factors by darkening one of the spaces at the right of each statement.

Extremely poor------------1
Below average-------------2
Average-------------------3
Above average-------------4
Excellent-----------------5

11.	Suitability of the method or methods by which subject matter of the course is presented (recitation, lecture, laboratory, etc.)......................	5	4	3	2	1
12.	The degree to which the objectives of the course were clarified and discussed..	5	4	3	2	1
13.	The agreement between the announced objectives of the course and what was actually taught.........................	5	4	3	2	1
14.	The use made of tests as aids to learning................................	5	4	3	2	1
15.	Amount of freedom allowed students in the selection of the materials to be studied (considering the subject matter).	5	4	3	2	1
16.	How the course is fulfilling your needs (consider your ultimate as well as your immediate goals)........................	5	4	3	2	1
17.	The weight given to tests in determining the final grade for the course..........	5	4	3	2	1
18.	Coordination of the tests with the major objectives of the course..........	5	4	3	2	1
19.	Frequency of tests......................	5	4	3	2	1
20.	The overall rating of the instructor.....	5	4	3	2	1

APPENDIX D

STANFORD TEACHER COMPETENCE APPRAISAL GUIDE

STANFORD TEACHER COMPETENCE APPRAISAL GUIDE

Name of Instructor______________________ Course____________
Date_________________

This rating is to be entirely impersonal. Do not sign your name or make any other mark on the paper which could serve to identify the rater.

				1 WEAK	2 BELOW AVERAGE	3 AVERAGE	4 STRONG	5 SUPERIOR	6 OUTSTANDING	7 EXCEPTIONAL
IS	1.	Clarity of Aims	The purposes of the lesson are clear.	1	2	3	4	5	6	7
	2.	Appropriateness of Aims	The aims are neither too easy nor too difficult for the pupils. They are appropriate, & are accepted by the pupils.	1	2	3	4	5	6	7
ANN	3.	Organization of the Lesson.	The individual parts of the lesson are clearly related to each other in an appropriate way. The total organization facilitates what is to be learned.	1	2	3	4	5	6	7
	4.	Selection of Content	The content is appropriate for the aims of the lesson, the level of the class, & the teaching method.	1	2	3	4	5	6	7
	5.	Selection of Materials	The specific instructional materials & human resources used are clearly related to the content of the lesson & complement the selected method of instruction.	1	2	3	4	5	6	7
PER ANC	6.	Beginning the lesson	Pupils come quickly to attention. They direct themselves to the tasks to be accomplished.	1	2	3	4	5	6	7
	7.	Clarity of Presentation	The content of the lesson is presented so that it is understandable to the pupils. Different points of view & specific illustrations are used when appropriate.	1	2	3	4	5	6	7
	8.	Pacing of the Lesson	The movement from one part of the lesson to the next is governed by the pupils' achievement. The teacher "stays with the class" & adjusts the tempo accordingly.	1	2	3	4	5	6	7
	9.	Pupil Participation & Attention	The class is attentive. When appropriate the pupils actively participate in the lesson.	1	2	3	4	5	6	7
	10.	Ending the Lesson	The lesson is ended when the pupils have achieved the aims of instruction. There is a deliberate attempt to tie together the planned & chance events of the lesson and relate them to the immediate and long range aims of instruction.	1	2	3	4	5	6	7
	11.	Teacher-Pupil Rapport	The personal relationships between pupils & the teacher are harmonious.	1	2	3	4	5	6	7
EV ATIC	12.	Variety of Evaluative Procedures	The teacher devises & uses an adequate variety of procedures, both formal & informal, to evaluate progress in all of the aims of instruction.	1	2	3	4	5	6	7
	13.	Use of Evaluation to Improve Teaching & Learning	The results of evaluation are carefully reviewed by teacher & pupils for the purpose of improving teaching & learning.	1	2	3	4	5	6	7

APPENDIX E

MEANS AND STANDARD DEVIATIONS BY ITEM AND BY FACULTY MEMBER ON THE PURDUE AND STANFORD SCALES

Means and Standard Deviations of Freed-Hardeman College Faculty on the Pre-Test Administration of the Purdue Rating Scale for Instruction

October, 1968

Faculty Member	1	2	3	4	5	6	7	8	9	10	Faculty Mean	SD on Item Mean
51 (N=7)												
Mean	9.57	7.71	8.71	8.57	8.57	8.57	8.57	8.29	9.71	8.86	8.71	
SD	.79	2.21	1.50	2.51	1.51	1.62	1.81	2.21	.49	2.04		.58
52 (N=6)												
Mean	9.67	8.33	9.50	9.00	9.00	8.00	9.17	8.83	9.67	8.67	8.98	
SD	.82	.82	1.51	.84	1.26	.89	1.41	.98	1.17	.52		.55
54 (N=24)												
Mean	9.83	7.83	8.21	8.83	8.83	8.63	8.83	8.83	9.33	8.67	8.73	
SD	.48	2.14	1.93	1.55	1.90	1.41	2.06	1.90	1.34	2.48		.55
56 (N=49)												
Mean	8.92	9.08	8.61	8.71	7.00	8.53	7.88	7.73	9.29	7.04	8.28	
SD	1.02	1.17	1.46	1.10	1.41	1.39	1.50	1.69	1.00	1.55		.82
58 (N=35)												
Mean	9.20	8.11	9.14	8.20	8.69	9.09	9.06	7.89	9.37	8.91	8.77	
SD	.83	1.55	1.12	1.53	1.02	.98	.97	1.43	.81	.81		.52
59 (N=37)												
Mean	9.19	8.62	9.57	8.43	7.00	8.51	8.78	8.38	9.54	7.46	8.55	
SD	.91	1.23	.69	1.21	2.00	1.30	1.21	1.38	.77	1.69		.58
60 (N=31)												
Mean	8.84	8.71	8.58	7.97	7.48	7.87	8.65	8.52	8.55	7.58	8.27	
SD	1.61	1.90	1.65	2.04	1.77	1.93	1.62	1.52	1.67	1.65		.50
61 (N=21)												
Mean	9.39	9.48	9.62	8.67	8.52	8.57	8.10	8.67	9.90	8.19	8.91	
SD	.80	.81	.59	1.53	1.33	1.69	1.51	1.20	.30	1.69		.63
N=210												
Mean	9.23	8.56	8.91	8.51	7.90	8.56	8.56	8.27	9.34	7.97	8.58	
SD	.35	.61	.54	.34	.84	.38	.45	.41	.41	.72		.66

Means and Standard Deviations of Freed-Hardeman College Faculty on the Pre-Test Administration of the Purdue Rating Scale for Instruction (cont'd)

October, 1968

11	12	13	14	15	16	17	18	19	20	Faculty Mean	SD on Item Mean
4.29 .76	3.86 .69	4.14 .69	3.29 .95	3.43 1.40	4.57 .79	3.43 .79	3.71 1.11	3.43 .79	4.43 .98	3.86	.47
4.50 .55	4.17 .75	4.50 .55	3.83 .75	3.50 .55	4.00 .63	3.50 .55	4.00 .63	3.33 .52	4.00 .63	3.93	.40
4.08 .72	3.67 .76	3.63 .82	3.54 1.28	2.92 .89	3.33 1.09	3.46 .83	3.54 1.10	3.88 1.15	4.21 .78	3.63	.37
3.65 .78	3.37 .72	3.65 .75	3.10 .65	3.10 .65	3.13 .75	3.12 .67	3.16 .62	2.86 .74	3.59 .64	3.27	.28
4.31 .72	4.14 .77	4.37 .73	3.94 .80	2.94 1.19	4.57 .78	3.83 .75	4.31 .58	3.94 .84	4.46 .61	4.08	.47
3.43 .83	3.11 1.05	3.35 .95	2.95 .74	2.68 1.08	3.22 1.00	3.08 .68	3.11 .77	3.05 .74	3.49 .73	3.15	.24
3.42 .81	3.39 .80	3.71 .78	3.19 .91	3.00 1.20	3.35 1.20	3.42 .62	3.77 .88	2.97 .71	3.81 .91	3.40	.30
4.05 .74	4.24 .62	4.24 .77	3.86 .73	2.81 .93	4.05 .80	3.48 .75	3.95 .92	3.33 .91	4.33 .66	3.83	.48
3.85 .42	3.63 .43	3.82 .42	3.41 .38	2.95 .29	3.60 .60	3.38 .23	3.60 .41	3.34 .40	3.96 .38	3.56	.49

Means and Standard Deviations of Freed-Hardeman College Faculty on Pre-Test Administration of the Stanford Teacher Competence Appraisal Guide

October, 1968

Faculty Member	1	2	3	4	5	6	7	8	9	10	11	12	13	Faculty Mean	SD on Item Mean
51 (N=7)															
Mean	4.57	3.86	4.86	4.14	4.57	4.14	4.71	3.71	5.29	3.71	5.43	4.86	3.43	4.41	
SD	1.13	.69	1.46	.90	.98	1.07	1.11	1.25	1.38	.95	1.27	1.35	1.51		.31
52 (N=6)															
Mean	4.83	4.67	4.83	4.83	4.83	4.33	5.17	4.83	5.50	4.50	4.83	4.47	4.17	4.77	
SD	.98	1.21	.75	1.47	.98	1.51	.98	1.33	.84	1.52	1.33	1.51	1.17		.35
54 (N=21)															
Mean	4.38	4.05	4.48	4.90	4.71	4.48	4.62	3.43	5.14	4.29	5.58	4.90	4.19	4.55	
SD	1.12	1.12	1.47	1.37	1.31	1.33	1.20	1.43	1.35	1.31	1.47	1.34	1.08		.35
56 (N=50)															
Mean	3.48	3.38	3.62	3.74	3.82	2.90	3.80	3.12	2.66	3.18	3.90	3.42	3.42	3.41	
SD	.76	.97	.75	.75	1.08	.79	1.21	.69	.89	.66	1.04	.78	.92		.38
58 (N=41)															
Mean	5.44	5.15	5.41	5.54	5.05	5.37	5.54	4.78	5.78	5.02	5.93	5.41	4.68	5.32	
SD	1.23	1.24	1.30	1.23	1.24	1.36	1.16	1.64	1.28	1.35	1.29	1.32	1.37		.37
59 (N=38)															
Mean	3.79	3.82	4.08	4.32	4.24	4.55	3.87	3.63	4.11	3.84	4.50	3.95	3.63	4.02	
SD	1.14	1.39	1.08	1.32	1.26	1.59	1.65	1.65	1.25	1.26	1.47	1.36	1.42		.41
60 (N=32)															
Mean	3.91	3.63	4.09	3.97	3.88	3.66	3.84	3.25	3.91	3.63	5.00	3.84	3.44	3.85	
SD	.89	.87	1.09	1.03	.94	1.07	1.30	1.22	1.12	1.24	1.44	1.32	.91		.63
61 (N=22)															
Mean	4.23	4.32	4.86	4.77	4.55	3.95	4.95	4.00	3.86	4.18	4.95	4.09	4.36	4.39	
SD	.97	1.21	1.08	1.27	1.14	1.05	1.09	1.02	1.21	1.05	1.36	1.02	1.36		.39
N=217															
Mean	4.21	4.04	4.38	4.50	4.37	4.12	4.42	3.70	4.25	3.99	4.92	4.28	3.88	4.24	
SD	.63	.58	.57	.59	.44	.72	.66	.65	1.07	.57	.64	.66	.52		.69

Means and Standard Deviations of Lane College Faculty on the Pre-Test Administration of the Purdue Rating Scale for Instruction

October, 1968

Faculty Member	1	2	3	4	5	6	7	8	9	10	Faculty Mean	SD on Item Mean
01 (N=41)												
Mean	8.83	7.44	7.68	8.17	7.68	7.34	7.85	7.37	9.44	8.12	7.99	
SD	1.12	1.70	2.09	1.50	2.04	1.78	1.85	1.71	1.05	2.04		.68
04 (N=40)												
Mean	9.30	9.15	8.70	9.43	8.20	8.30	8.43	8.35	9.37	8.80	8.80	
SD	.69	1.09	1.32	.90	1.60	1.36	1.77	1.27	.84	1.29		.48
06 (N=34)												
Mean	9.29	9.44	8.96	9.29	8.62	8.35	8.59	8.56	9.79	8.71	8.96	
SD	.76	.79	0.00	1.27	1.18	1.77	1.21	1.28	.54	1.62		.47
09 (N=30)												
Mean	7.43	5.30	6.80	6.10	7.03	6.37	7.23	5.77	6.80	5.90	6.47	
SD	1.99	2.15	2.16	2.17	1.99	2.19	1.78	1.78	2.34	2.20		.97
10 (N=63)												
Mean	8.24	8.25	6.25	8.11	8.13	8.02	7.94	7.73	9.44	8.12	8.00	
SD	1.20	1.33	1.87	1.64	1.68	1.44	1.50	1.61	1.00	1.76		.76
11 (N=25)												
Mean	9.12	9.20	9.04	9.00	8.80	8.60	8.76	8.36	9.04	8.52	8.84	
SD	.73	1.00	.93	.87	1.32	1.26	1.09	1.35	.93	1.01		.28
13 (N=32)												
Mean	9.56	9.22	8.78	9.31	8.34	8.40	7.97	8.44	9.59	8.44	8.81	
SD	1.01	1.07	1.50	.93	1.15	1.46	1.82	1.37	.76	1.66		.57
14 (N=27)												
Mean	9.19	9.22	8.77	9.33	8.30	8.85	8.59	8.59	9.81	8.59	8.93	
SD	1.11	1.19	1.50	1.00	1.44	1.26	1.12	1.28	.48	1.24		.45
N=292 Mean	8.81	8.33	7.88	8.53	8.10	7.99	8.10	7.84	9.20	8.11	8.29	
SD	.70	1.42	1.08	1.14	.56	.81	.51	.96	.98	.95		.97

Means and Standard Deviations of Lane College Faculty on the Pre-Test Administration of the Stanford Teacher Competence Appraisal Guide

October, 1968

Faculty Member	1	2	3	4	5	6	7	8	9	10	11	12	13	Faculty Mean	SD on Item Mean
01 (N=41)															
Mean	3.95	3.95	4.29	4.24	4.45	4.30	4.05	3.95	3.66	3.90	4.32	4.05	4.34	4.12	
SD	1.36	1.41	1.33	1.28	1.43	1.55	1.41	1.69	1.28	1.32	1.51	1.02	1.46		.24
04 (N=40)															
Mean	4.45	3.98	4.63	4.38	4.53	4.58	5.10	4.45	4.68	4.20	4.30	4.58	4.35	4.48	
SD	1.06	1.25	1.43	1.05	1.15	1.41	1.24	1.34	1.38	1.04	1.57	1.24	1.31		.27
06 (N=34)															
Mean	4.56	4.85	4.71	4.50	4.91	4.68	5.44	4.82	4.76	4.59	4.59	4.59	4.85	4.76	
SD	1.37	1.50	1.47	1.35	1.42	1.59	1.58	1.49	1.65	1.42	1.52	1.37	1.56		.24
09 (N=29)															
Mean	4.07	4.21	4.34	4.48	4.76	5.55	4.69	4.10	4.72	4.17	4.41	4.07	3.79	4.41	
SD	1.33	1.35	1.54	1.66	1.57	1.48	1.51	1.82	1.33	1.47	1.80	1.41	1.61		.45
10 (N=63)															
Mean	4.19	4.05	4.70	4.51	4.44	4.75	4.83	4.38	4.68	4.35	4.51	4.24	4.14	4.44	
SD	1.31	1.16	1.16	1.32	1.27	1.55	1.52	1.73	1.39	1.47	1.51	1.32	1.26		.25
11 (N=25)															
Mean	4.04	4.20	4.32	4.48	3.92	4.72	4.44	3.80	4.44	3.72	4.16	3.80	3.76	4.14	
SD	.98	1.19	1.22	1.16	1.19	1.43	1.19	1.15	1.26	1.20	1.34	.76	.78		.33
13 (N=31)															
Mean	4.42	4.58	5.03	5.00	4.81	4.48	4.84	4.74	5.39	4.48	4.26	4.77	4.84	4.74	
SD	1.36	1.36	1.38	1.26	1.22	1.41	1.34	1.73	1.48	1.55	1.65	1.31	1.59		.30
14 (N=27)															
Mean	4.70	4.37	4.37	4.85	4.89	4.74	5.07	5.30	5.07	4.48	5.00	5.04	4.81	4.82	
SD	1.49	1.52	1.45	1.35	1.48	1.43	1.62	1.49	1.49	1.48	1.75	1.43	1.44		.29
N=290															
Mean	4.26	4.22	4.56	4.52	4.58	4.69	4.77	4.39	4.61	4.23	4.42	4.35	4.33	4.46	
SD	.27	.31	.26	.25	.33	.37	.43	.50	.50	.30	.26	.42	.45		.39

Means and Standard Deviations of Freed-Hardeman College Faculty on the Post-Test Administration of the Purdue Rating Scale for Instruction

December, 1968

Faculty Member	1	2	3	4	5	6	7	8	9	10	Item Mean	SD on Item Mean
51 (N=5)												
Mean	9.00	7.00	8.40	9.00	7.20	6.60	7.80	5.60	8.60	7.60	7.68	
SD	.71	1.41	1.52	1.41	2.17	1.14	1.48	3.05	2.19	1.67		1.16
52 (N=6)												
Mean	9.50	7.83	9.17	8.17	7.00	8.00	8.67	8.00	9.67	6.50	8.25	
SD	.84	1.33	.98	1.33	.63	1.41	.82	1.41	.52	1.05		.72
54 (N=37)												
Mean	9.35	7.11	8.65	8.24	8.59	8.43	9.14	8.30	9.22	8.59	8.56	
SD	.79	2.04	1.01	1.26	1.17	1.37	.98	1.43	1.08	1.12		.61
56 (N=52)												
Mean	8.85	8.92	9.30	8.90	7.52	8.87	8.13	8.00	9.23	7.42	8.52	
SD	.89	.90	.83	1.12	1.50	1.22	1.27	1.55	1.18	1.59		.78
58 (N=40)												
Mean	8.40	7.90	8.65	8.10	8.30	8.60	8.55	7.63	8.98	8.28	8.34	
SD	1.13	1.74	1.35	1.32	1.22	1.39	1.20	1.33	1.53	1.62		.74
59 (N=35)												
Mean	8.63	8.57	9.20	8.29	6.74	8.29	8.34	8.11	9.26	7.40	8.28	
SD	1.14	1.38	1.13	1.25	2.13	1.32	.84	1.57	1.07	1.74		.84
60 (N=26)												
Mean	8.81	8.12	8.69	7.88	7.15	7.85	8.58	7.92	8.35	6.85	8.02	
SD	.85	1.56	1.29	2.07	2.05	1.95	1.10	1.60	1.35	1.95		1.16
61 (N=20)												
Mean	9.25	7.85	9.55	8.35	7.80	7.80	8.50	8.30	9.90	7.30	8.46	
SD	1.12	1.57	.60	1.57	1.57	2.33	1.43	1.53	.31	2.03		.91
N=221												
Mean	8.87	8.11	8.99	8.36	7.68	8.36	8.50	7.96	9.14	7.67	8.36	
SD	1.02	1.63	1.12	1.41	1.71	1.56	1.17	1.57	1.25	1.72		.86

Means and Standard Deviations of F-H College Faculty on the Post-Test Administration of the Purdue Rating Scale for Instruction (cont'd)

December, 1968

11	12	13	14	15	16	17	18	19	20	Item Mean	SD on Item Mean
3.50 .86	3.31 .84	3.77 .91	2.96 1.08	2.81 1.17	2.92 1.29	3.31 .92	3.27 .72	3.00 .89	3.69 .79	3.25	.65
3.50 .84	3.50 .55	4.17 .41	3.33 .82	2.83 .41	3.17 .98	3.00 .63	3.67 .52	2.83 .75	3.83 .41	3.38	.39
3.78 .75	3.78 .75	4.05 .78	3.49 1.07	2.92 .83	3.24 .98	3.54 .93	3.68 .94	3.03 1.14	4.14 .75	3.56	.61
4.25 .63	4.18 .81	4.30 .82	3.98 .97	3.50 .96	4.38 .74	3.80 .82	4.20 .72	3.88 .85	4.25 .74	4.07	.50
3.34 .91	3.26 .89	3.71 .86	3.51 .98	2.71 .79	3.51 1.01	3.29 .71	3.57 .70	3.23 .77	3.71 .57	3.39	.52
4.00 1.00	4.00 .71	3.00 .71	2.60 .89	2.60 1.30	3.80 .89	2.60 .45	3.20 .55	2.40 .89	3.60 1.06	3.18	.44
3.45 .76	3.40 .82	3.60 .88	2.90 .72	2.20 .89	2.85 1.09	3.30 .80	3.55 .76	2.85 1.04	3.85 .74	3.20	.50
4.00 .77	3.52 .73	3.92 .79	3.73 .93	3.08 .88	3.52 1.02	3.58 .85	3.88 .81	3.37 .84	4.00 .71	3.66	.55
3.78 .84	3.62 .84	3.92 .85	3.50 1.03	2.94 .96	3.49 1.11	3.47 .86	3.73 .82	3.25 .96	3.96 .73	3.57	.86

Means and Standard Deviations of Freed-Hardeman College Faculty on the Post-Test Administration of the Stanford Teacher Competence Appraisal Guide

December, 1968

Faculty Member	1	2	3	4	5	6	7	8	9	10	11	12	13	Item Mean	SD on Item Mean
51 (N=5)															
Mean	4.60	5.40	4.20	5.40	5.20	4.40	4.20	3.20	5.40	3.60	4.80	5.20	3.80	4.57	
SD	1.52	1.82	1.79	1.52	2.05	1.95	1.64	1.64	1.82	.89	2.39	2.05	1.10		1.49
52 (N=6)															
Mean	4.00	3.50	4.17	4.00	4.83	3.67	4.33	3.17	4.50	4.33	5.17	3.67	4.00	4.10	
SD	.89	1.05	1.17	1.10	.75	1.03	1.03	1.17	1.22	.52	.41	1.37	.63		.66
54 (N=37)															
Mean	4.08	4.08	4.22	4.51	4.68	4.24	4.57	3.43	4.43	3.86	4.62	4.41	4.14	4.25	
SD	1.14	1.44	1.32	1.26	1.29	1.50	1.34	1.74	1.44	1.53	1.46	1.30	1.23		1.07
56 (N=53)															
Mean	3.85	4.09	4.25	4.42	4.47	3.08	4.23	3.70	3.40	3.81	4.72	3.62	3.77	3.95	
SD	1.17	1.30	1.34	1.36	1.34	1.14	1.54	1.28	1.31	1.14	1.36	1.00	1.38		1.04
58 (N=40)															
Mean	4.16	4.06	4.98	5.30	4.98	4.43	4.98	4.03	5.25	4.63	5.48	5.08	4.40	4.91	
SD	1.24	1.42	1.42	1.26	1.23	1.43	1.29	1.75	1.30	1.37	1.47	1.49	1.41		1.06
59 (N=35)															
Mean	3.71	3.63	4.29	4.11	3.97	4.06	3.54	3.89	4.23	3.71	4.51	3.94	3.57	3.94	
SD	.99	1.19	1.07	1.05	1.15	1.30	1.36	1.55	1.46	1.25	1.36	1.19	.92		.88
60 (N=27)															
Mean	3.89	3.20	4.11	3.44	3.96	3.59	3.81	3.19	3.59	3.44	4.41	3.56	4.15	3.73	
SD	1.05	1.46	1.42	1.55	1.40	1.22	1.49	1.64	1.15	1.40	1.58	1.55	1.46		1.20
61 (N=20)															
Mean	3.95	3.60	4.50	4.00	3.95	3.90	3.65	2.95	3.45	3.65	4.45	3.65	3.25	3.77	
SD	1.36	.99	.95	.92	1.10	1.21	1.04	1.10	.94	1.35	1.47	1.18	1.07		.83
N=221															
Mean	4.16	4.09	4.38	4.40	4.44	3.85	4.21	3.59	4.14	3.90	4.76	4.09	3.91	4.14	
SD	1.24	1.42	1.31	1.37	1.32	1.39	1.45	1.55	1.47	1.34	1.47	1.40	1.29		1.09

Means and Standard Deviations of Lane College Faculty
on the Post-Test Administration of the Purdue Rating
Scale for Instruction

December, 1968

Faculty Member	1	2	3	4	5	6	7	8	9	10	Item Mean	SD on Item Mean
01 (N=43)												
Mean	8.86	7.57	8.57	8.64	7.78	7.86	7.84	7.93	9.48	8.34	8.29	
SD	1.41	1.72	1.85	1.22	1.68	1.89	1.43	1.78	.95	1.79		.99
04 (N=37)												
Mean	9.41	9.03	8.65	9.49	8.92	9.03	8.81	8.43	9.30	8.81	8.99	
SD	.90	1.61	1.74	.87	1.42	1.17	1.15	1.74	.85	1.35		.89
06 (N=27)												
Mean	7.04	6.37	7.30	7.70	5.89	6.15	7.26	7.00	9.22	5.67	6.96	
SD	3.04	3.26	2.88	2.84	2.44	2.95	2.14	2.47	1.89	3.43		2.17
09 (N=26)												
Mean	7.50	5.96	7.54	7.54	7.08	6.50	7.65	6.54	6.81	6.31	6.94	
SD	1.66	2.01	2.04	1.90	2.06	1.82	1.83	1.73	2.26	2.46		1.24
10 (N=56)												
Mean	8.34	4.48	6.25	6.63	6.07	6.21	7.86	6.07	9.11	5.86	6.69	
SD	2.25	2.47	2.26	2.30	2.59	2.03	1.93	2.55	1.45	2.96		1.58
11 (N=23)												
Mean	9.40	8.83	9.57	9.04	7.96	8.43	9.04	8.61	9.04	8.09	8.80	
SD	.72	1.11	.66	1.07	2.03	1.50	.88	1.03	1.02	1.28		.77
13 (N=28)												
Mean	9.50	9.18	8.71	8.79	8.68	8.43	8.32	8.46	9.07	8.61	8.78	
SD	1.00	1.02	1.24	1.23	1.28	1.23	2.42	1.55	1.25	1.62		.75
14 (N=19)												
Mean	9.11	7.89	9.00	8.58	8.32	8.53	8.42	8.11	9.47	8.95	8.64	
SD	1.49	1.79	1.25	1.35	1.67	1.54	1.17	1.67	.77	1.22		.81
N=259												
Mean	8.63	7.13	7.98	8.17	7.46	7.52	8.10	7.50	9.00	7.44	7.89	
SD	1.92	2.66	2.19	2.00	2.27	2.15	1.78	2.17	1.55	2.58		1.57

Means and Standard Deviations of Lane College Faculty on the Post-Test Administration of the Stanford Teacher Competence Appraisal Guide

December, 1968

Faculty Member	1	2	3	4	5	6	7	8	9	10	11	12	13	Item Mean	SD on Item Mean
01 (N=44)															
Mean	4.14	4.07	4.42	4.33	4.58	4.26	4.44	3.65	4.19	3.88	4.56	4.26	4.40	4.24	
SD	1.34	1.35	1.38	1.44	1.30	1.54	1.52	1.67	1.56	1.26	1.58	1.48	1.59		1.13
04 (N=37)															
Mean	4.57	4.54	4.76	4.81	4.70	4.35	4.86	4.68	4.54	4.49	4.38	4.46	4.62	4.60	
SD	1.14	1.46	1.32	1.47	1.22	1.11	1.51	1.31	1.46	1.46	1.52	1.46	1.30		1.10
06 (N=27)															
Mean	3.15	2.67	3.52	3.41	3.59	3.00	3.52	3.44	3.22	2.96	3.56	3.19	3.22	3.27	
SD	1.32	1.27	1.05	1.25	1.28	1.41	1.25	1.42	1.42	.94	1.80	1.27	1.58		.94
09 (N=26)															
Mean	3.38	3.23	3.42	3.42	3.62	4.50	3.50	3.58	3.96	3.46	3.27	3.31	3.42	3.54	
SD	1.10	.99	.90	1.30	1.20	1.68	1.36	1.50	1.25	1.21	1.43	.88	1.33		.85
10 (N=56)															
Mean	3.45	2.98	3.68	3.43	3.64	4.09	3.02	2.41	3.64	3.00	2.97	3.39	2.98	3.29	
SD	1.23	1.10	1.42	1.14	1.18	1.64	1.38	1.12	1.27	1.49	1.06	1.30	1.26		.88
11 (N=23)															
Mean	4.13	3.74	4.83	4.35	4.52	4.57	4.39	3.78	4.13	3.91	4.48	3.91	3.87	4.20	
SD	1.22	1.45	1.59	1.23	1.27	1.47	1.37	1.38	1.36	1.35	1.27	1.41	1.49		1.16
13 (N=28)															
Mean	3.96	4.39	4.50	4.29	4.57	4.50	4.86	4.39	4.68	3.89	4.57	4.29	3.93	4.37	
SD	1.10	1.50	1.32	1.27	1.20	1.43	1.43	1.73	1.70	1.47	1.71	1.27	1.33		1.08
14 (N=19)															
Mean	4.74	4.53	5.00	5.11	4.68	4.31	4.58	4.74	4.89	5.16	4.95	4.74	4.79	4.79	
SD	1.41	1.39	1.53	1.52	1.20	1.67	1.47	1.76	1.76	1.46	1.65	1.41	1.55		1.21
N=260															
Mean	3.90	3.71	4.20	4.07	4.20	4.19	4.05	3.67	4.10	3.75	3.98	3.90	3.83	3.97	
SD	1.32	1.46	1.43	1.43	1.31	1.55	1.57	1.65	1.52	1.49	1.62	1.42	1.54		1.16

Means and Standard Deviations of Freed-Hardeman College Faculty on the Pre-Test Administration of the Purdue Rating Scale for Instruction

February, 1969

Faculty Member	1	2	3	4	5	6	7	8	9	10	Faculty Mean	SD on Item Mean
51 (N=12)												
Mean	9.50	7.08	7.75	7.83	9.17	7.25	8.17	8.08	9.92	8.58	8.33	
SD	.80	1.24	1.91	1.53	.72	1.48	1.53	1.62	.29	1.50		.95
52 (N=34)												
Mean	9.56	7.59	7.85	8.03	7.85	7.09	8.85	7.62	9.65	7.26	8.13	
SD	.75	1.74	1.69	1.45	1.56	1.91	1.52	1.94	.54	1.97		.91
54 (N=22)												
Mean	9.32	7.27	8.59	8.86	7.73	8.05	8.82	7.77	9.55	8.14	8.41	
SD	.84	1.67	1.18	1.04	1.32	1.13	1.30	1.23	.67	1.64		.74
56 (N=38)												
Mean	8.47	9.16	9.16	8.89	7.21	8.58	7.55	7.55	9.37	7.21	8.31	
SD	1.45	.79	.79	1.16	2.35	1.97	2.20	2.19	.82	1.74		.85
58 (N=50)												
Mean	9.42	8.70	8.52	8.66	8.78	9.10	9.38	8.52	9.52	8.82	8.94	
SD	.73	1.09	1.50	1.06	.95	1.11	.78	1.13	.65	1.04		.38
59 (N=19)												
Mean	8.68	8.74	9.74	8.58	6.58	8.16	7.95	8.42	9.68	7.32	8.38	
SD	1.57	1.48	.56	.69	2.09	1.21	2.09	1.30	.48	1.63		.97
60 (N=37)												
Mean	9.65	9.11	8.95	9.11	9.00	9.11	8.89	8.40	8.32	8.14	8.87	
SD	.72	1.15	1.35	.97	1.18	.99	1.17	1.32	1.54	1.70		.45
61 (N=22)												
Mean	9.45	8.50	8.91	8.09	7.82	8.41	8.64	8.50	9.95	7.68	8.59	
SD	.86	1.57	1.74	1.69	1.92	1.59	1.29	1.14	.21	1.84		.70
N=234												
Mean	9.26	8.27	8.68	8.51	8.02	8.22	8.53	8.11	9.49	7.89	8.50	
SD	.44	.83	.66	.47	.91	.75	.59	.41	.51	.62		.78

Means and Standard Deviations of Freed-Hardeman College Faculty on the Pre-Test Administration of the Stanford Teacher Competence Appraisal Guide

February, 1969

Faculty Member	1	2	3	4	5	6	7	8	9	10	11	12	13	Faculty Mean	SD on Item Mean
51 (N=12)															
Mean	4.25	5.17	4.50	4.83	5.58	4.33	4.58	4.25	5.08	4.33	5.08	4.67	4.25	4.68	
SD	.97	1.40	1.68	1.19	1.31	1.23	1.62	1.60	1.62	1.67	2.11	1.56	1.29		.43
52 (N=34)															
Mean	3.68	3.44	4.03	3.94	4.32	3.56	3.24	2.94	3.65	3.29	3.44	3.62	3.32	3.57	
SD	1.04	1.24	1.22	1.20	1.25	1.13	1.37	1.01	1.15	1.00	1.26	1.07	.81		.37
54 (N=22)															
Mean	4.45	4.14	4.45	4.36	4.04	4.27	4.82	3.23	4.14	3.59	4.40	4.18	3.68	4.13	
SD	1.26	1.13	1.14	1.00	1.00	1.08	1.10	1.07	1.13	1.05	1.43	1.18	.90		.42
56 (N=38)															
Mean	3.61	4.05	3.89	4.34	4.61	3.58	4.34	3.95	3.53	3.89	4.79	4.13	3.89	4.05	
SD	1.20	1.16	1.25	1.24	1.64	1.43	1.55	1.35	1.27	1.23	1.49	1.51	1.35		.39
58 (N=51)															
Mean	4.45	4.75	4.53	4.88	4.73	4.55	5.61	4.88	5.12	4.71	5.94	4.71	4.59	4.88	
SD	1.45	1.29	1.51	1.28	1.23	1.55	1.20	1.41	1.35	1.43	1.16	1.40	1.40		.44
59 (N=19)															
Mean	3.74	3.89	4.32	4.26	4.26	4.32	4.16	4.21	3.63	3.63	5.16	4.00	3.79	4.11	
SD	1.19	1.10	1.42	1.33	1.05	1.42	1.84	1.27	1.21	.83	1.34	1.33	1.08		.41
60 (N=37)															
Mean	5.16	5.14	5.03	5.27	5.41	4.54	5.89	4.73	4.14	4.89	5.65	4.59	4.27	4.98	
SD	1.26	1.25	1.36	1.26	1.14	1.64	1.10	1.43	1.36	1.26	1.34	1.21	1.22		.52
61 (N=22)															
Mean	4.95	4.95	5.64	4.95	5.00	4.36	4.95	4.14	4.36	4.14	5.27	4.32	4.41	4.73	
SD	1.09	1.09	1.00	1.09	1.11	1.18	1.09	1.04	1.43	.94	1.24	1.04	1.18		.47
N=235															
Mean	4.29	4.44	4.55	4.60	4.74	4.19	4.70	4.04	4.21	4.06	4.97	4.28	4.02	4.39	
SD	.58	.65	.56	.44	.55	.40	.84	.67	.62	.56	.78	.37	.43		.63

Means and Standard Deviations for Lane College Faculty on the Pre-Test Administration of the Purdue Rating Scale for Instruction

February, 1969

Faculty Member	1	2	3	4	5	6	7	8	9	10	Faculty Mean	SD on Item Mean
01 (N=38)												
Mean	8.53	7.63	8.32	8.63	7.63	7.79	8.03	7.87	8.79	7.81	8.10	
SD	1.27	1.79	1.69	1.15	1.70	1.58	1.33	1.66	1.19	1.80		.43
06 (N=48)												
Mean	7.96	7.78	7.00	8.37	7.52	6.76	7.54	7.83	9.11	8.00	7.79	
SD	1.83	2.10	2.30	1.76	2.02	2.29	1.68	2.21	1.57	1.86		.66
09 (N=30)												
Mean	7.20	6.83	7.70	7.07	6.67	6.83	7.80	6.90	7.57	6.43	7.10	
SD	2.61	2.02	2.20	2.26	2.54	1.93	2.02	1.81	2.08	2.90		.46
10 (N=15)												
Mean	8.27	7.33	8.07	8.40	8.00	7.93	7.73	6.73	9.47	8.07	8.00	
SD	1.44	2.23	1.67	2.10	2.24	1.58	1.62	2.31	.92	2.40		.71
11 (N=23)												
Mean	9.48	9.04	9.26	9.17	8.30	9.00	9.09	8.22	8.96	8.61	8.91	
SD	.79	.88	1.25	.83	1.52	.95	1.00	1.38	.88	1.41		.41
12 (N=30)												
Mean	8.47	6.53	7.30	7.07	6.97	6.40	7.43	6.77	8.97	7.70	7.36	
SD	1.31	1.72	1.86	1.93	1.47	1.99	1.72	2.05	1.35	1.99		.83
13 (N=27)												
Mean	9.11	8.96	8.33	8.89	8.96	8.48	8.63	9.00	9.22	8.63	8.82	
SD	1.60	1.19	1.69	.97	.94	1.25	1.28	1.18	1.22	1.55		.29
14 (N=22)												
Mean	8.73	8.95	8.50	8.95	7.82	8.59	7.64	8.09	9.68	8.09	8.50	
SD	1.12	.95	1.26	1.13	1.22	1.30	1.36	1.15	.57	1.19		.61
N=233												
Mean	8.47	7.88	8.06	8.32	7.73	7.72	7.99	7.68	8.97	7.92	8.07	
SD	.70	1.00	.72	.82	.72	.96	.58	.81	.64	.69		.83

Means and Standard Deviations of Lane College
Faculty on the Pre-Test Administration of the
Purdue Rating Scale for Instruction (cont'd)

February, 1969

Faculty Member	11	12	13	14	15	16	17	18	19	20	Faculty Mean	SD on Item Mean
01 (N=38)												
Mean	3.39	3.16	3.50	3.32	3.05	3.29	3.42	3.50	3.37	3.89	3.39	
SD	.64	.75	.73	.87	.06	.87	.83	.65	.88	.86		.23
06 (N=46)												
Mean	3.17	3.26	3.37	3.28	3.26	3.22	3.35	3.26	3.00	3.52	3.27	
SD	.80	.77	.71	.83	1.00	.87	.87	.65	.67	.86		.14
09 (N=30)												
Mean	2.97	3.10	3.00	2.97	3.30	3.33	3.27	3.20	2.77	3.30	3.12	
SD	.72	.96	.05	.96	1.20	.99	.64	.85	.77	.99		.19
10 (N=15)												
Mean	3.60	3.87	3.60	3.60	3.00	3.80	3.53	3.80	3.47	3.73	3.60	
SD	.74	.92	.83	.91	.76	1.01	.74	.86	.83	.96		.25
11 (N=23)												
Mean	3.61	3.70	3.65	3.52	2.83	3.65	3.61	3.57	3.35	3.97	3.55	
SD	1.12	1.02	.88	1.04	.98	.93	.84	.90	.93	.88		.30
12 (N=30)												
Mean	3.03	3.20	3.10	3.30	2.27	3.10	3.17	3.17	3.57	3.17	3.11	
SD	.62	.76	.96	.84	.87	.80	.83	.70	.90	.91		.33
13 (N=27)												
Mean	3.44	3.33	3.28	3.70	3.15	3.22	3.11	3.59	3.11	3.81	3.37	
SD	.75	.88	.75	1.03	.91	.80	.85	.69	.50	.68		.25
14 (N=22)												
Mean	3.56	3.27	3.56	3.32	3.18	3.41	3.41	3.50	3.18	4.05	3.44	
SD	.74	.77	.80	.78	.91	1.01	.96	.67	.50	.84		.25
N=231												
Mean	3.35	3.36	3.38	3.38	3.00	3.38	3.36	3.45	3.23	3.68	3.36	
SD	.26	.27	.24	.23	.33	.24	.17	.22	.26	.32		.29

Means and Standard Deviations of Lane College Faculty on the Pre-Test Administration of the Stanford Teacher Competence Appraisal Guide

February, 1969

Faculty Member	1	2	3	4	5	6	7	8	9	10	11	12	13	Faculty Mean	SD on Item Mean
01 (N=38)															
Mean	3.82	3.62	3.97	4.00	3.89	3.68	4.13	3.34	3.66	3.45	4.11	4.03	3.97	3.82	
SD	1.09	1.17	1.26	1.14	1.11	1.44	1.61	1.51	1.32	1.06	1.37	1.13	1.26		.25
06 (N=46)															
Mean	3.46	3.69	3.65	3.63	3.50	3.75	3.77	3.73	3.79	3.75	3.56	3.79	4.08	3.70	
SD	1.13	1.27	1.34	1.18	1.09	1.23	1.22	1.30	1.30	1.30	1.17	1.35	1.46		.16
09 (N=30)															
Mean	3.07	3.00	3.41	3.28	3.34	4.31	3.10	3.55	3.86	3.03	3.66	3.41	3.21	3.40	
SD	1.17	1.22	1.09	1.16	1.20	1.58	1.57	1.76	1.36	1.27	1.78	1.35	1.50		.37
10 (N=15)															
Mean	4.00	3.93	4.87	4.13	4.27	4.60	4.33	4.13	4.67	4.47	4.27	4.00	4.40	4.31	
SD	1.25	1.33	1.46	1.41	1.62	1.30	1.59	1.60	1.59	1.55	1.53	1.07	1.55		.28
11 (N=23)															
Mean	4.65	4.30	5.00	4.61	4.74	5.04	4.48	4.22	4.65	4.09	5.13	4.57	4.65	4.63	
SD	1.27	1.15	1.17	1.20	1.25	1.52	1.34	1.57	1.43	1.24	1.39	1.27	1.15		.31
12 (N=30)															
Mean	3.70	3.23	3.63	3.57	3.57	3.67	3.50	2.90	3.73	3.00	3.33	3.60	3.27	3.44	
SD	1.18	.90	1.00	1.17	1.04	1.38	1.28	1.56	1.44	1.58	1.77	1.38	1.46		.27
13 (N=27)															
Mean	4.15	3.93	4.48	4.44	4.56	4.22	4.48	4.52	4.78	4.26	4.33	3.85	4.30	4.33	
SD	1.17	1.34	1.31	1.25	1.01	1.37	1.37	1.81	1.31	1.10	1.41	1.23	1.23		.26
14 (N=22)															
Mean	4.41	4.14	4.27	4.32	4.41	4.09	4.77	4.05	4.91	4.36	5.09	4.45	4.50	4.44	
SD	1.68	1.32	1.32	1.49	1.37	1.48	1.88	1.53	1.41	1.50	1.54	1.71	1.53		.31
N=231															
Mean	3.91	3.73	4.16	4.00	4.03	4.17	4.07	3.80	4.26	3.80	4.18	3.96	4.05	4.01	
SD	.51	.44	.59	.47	.53	.48	.57	.53	.54	.59	.67	.39	.54		.52

Means and Standard Deviations of Freed-Hardeman College Faculty on the Post-Test Administration of the Purdue Rating Scale for Instruction

May, 1969

Faculty Member	1	2	3	4	5	6	7	8	9	10	Faculty Mean	SD on Item Mean
51 (N=8)												
Mean	8.25	6.75	7.62	9.00	9.12	7.50	8.25	7.00	9.38	8.25	8.11	
SD	1.49	1.58	1.30	.76	.99	1.31	1.28	1.85	.92	1.04		.89
52 (N=31)												
Mean	9.32	8.03	8.55	7.80	7.55	7.32	8.10	7.84	9.58	6.77	8.09	
SD	.94	2.15	1.63	1.56	1.86	2.09	2.00	1.70	.76	2.09		.86
54 (N=52)												
Mean	9.62	7.42	8.50	8.60	8.56	8.37	9.40	8.21	9.63	8.48	8.68	
SD	1.33	2.06	1.87	1.52	1.53	1.79	.77	1.82	.69	1.74		.69
56 (N=36)												
Mean	8.83	8.89	9.39	9.06	7.14	8.81	8.22	7.75	9.33	7.19	8.46	
SD	1.50	1.89	.87	.83	2.29	1.49	1.40	1.81	1.04	2.00		.84
58 (N=17)												
Mean	8.65	7.94	9.06	8.24	8.41	8.53	8.88	7.41	9.00	8.47	8.46	
SD	.86	1.09	.97	.90	.80	1.28	1.27	1.54	.79	1.01		.50
59 (N=19)												
Mean	8.68	8.37	9.37	8.79	6.47	8.47	7.26	8.42	9.37	6.37	8.16	
SD	1.20	1.01	.76	.92	2.41	1.30	2.02	1.35	.68	2.29		1.09
60 (N=37)												
Mean	9.19	8.00	8.81	8.40	8.43	8.57	8.76	7.84	7.00	7.73	8.27	
SD	1.61	2.21	1.85	1.80	1.72	1.81	1.59	1.86	2.44	1.58		.64
61 (N=22)												
Mean	9.68	8.86	9.59	8.59	8.41	9.05	8.68	8.77	9.95	8.27	8.98	
SD	.48	.99	.73	.80	1.01	1.17	.99	.87	.21	.98		.57
N=222												
Mean	9.03	8.03	8.86	8.56	8.01	8.33	8.44	7.90	9.15	7.69	8.40	
SD	.51	.71	.64	.41	.88	.61	.64	.56	.91	.82		.80

Means and Standard Deviations of the Freed-Hardeman College Faculty on the Post-Test Administration of the Stanford Teacher Competence Appraisal Guide

May, 1969

Faculty Member	1	2	3	4	5	6	7	8	9	10	11	12	13	Faculty Mean	SD on Item Mean
51 (N=8)															
Mean	3.88	4.50	4.25	4.63	4.88	4.00	5.00	4.75	5.13	4.25	4.88	3.88	3.88	4.45	
SD	.64	1.31	1.39	.92	.83	1.07	2.00	1.58	1.81	1.28	1.55	1.12	1.36		.46
52 (N=31)															
Mean	3.97	3.90	4.48	4.13	4.45	3.87	3.97	3.13	3.58	3.45	3.93	3.61	3.48	3.84	
SD	.88	1.10	1.41	1.28	1.15	1.31	1.30	1.14	1.29	1.26	1.65	1.20	1.33		.39
54 (N=52)															
Mean	4.35	4.29	4.92	4.83	4.88	4.98	5.08	3.44	4.87	4.06	5.33	4.75	4.02	4.60	
SD	1.19	1.33	1.44	1.44	1.28	1.48	1.45	1.46	1.19	1.35	1.68	1.41	1.45		.53
56 (N=36)															
Mean	4.22	4.36	4.75	4.94	4.67	3.58	4.47	3.97	3.56	4.03	5.22	4.00	4.00	4.29	
SD	1.29	1.42	1.38	1.49	1.49	1.34	1.66	1.46	1.34	1.23	1.42	1.63	1.62		.51
58 (N=17)															
Mean	5.53	5.58	5.37	5.47	5.57	4.21	5.42	4.68	5.26	5.00	6.00	5.68	4.63	5.26	
SD	1.02	1.02	1.07	1.02	1.30	1.23	1.12	1.42	1.19	1.15	1.05	.89	1.30		.50
59 (N=19)															
Mean	3.74	3.63	4.11	4.00	3.89	4.00	3.63	4.58	3.37	3.73	5.05	3.37	3.84	3.92	
SD	1.10	1.17	1.52	1.29	1.05	1.53	1.30	1.50	1.26	1.10	1.39	1.12	1.17		.47
60 (N=37)															
Mean	5.11	4.97	4.92	4.97	4.84	4.38	5.46	4.62	4.35	4.32	5.16	4.38	4.30	4.75	
SD	1.51	1.52	1.53	1.40	1.42	1.55	1.43	1.50	1.57	1.47	1.50	1.42	1.45		.38
61 (N=22)															
Mean	5.26	5.00	5.82	5.35	5.30	5.26	5.30	4.26	4.70	4.91	5.78	4.83	4.74	5.12	
SD	1.14	1.24	.98	.93	1.06	.96	.97	1.25	1.11	1.16	1.73	1.19	1.51		.44
N=222															
Mean	4.51	4.53	4.83	4.79	4.81	4.28	4.79	4.18	4.35	4.22	5.17	4.31	4.11	4.53	
SD	.69	.63	.57	.52	.51	.57	.69	.61	.76	.53	.62	.76	.42		.66

Means and Standard Deviations of Lane College Faculty on the Post-Test Administration of the Purdue Rating Scale for Instruction

May, 1969

Faculty Member	1	2	3	4	5	6	7	8	9	10	Faculty Mean	SD on Item Mean
01 (N=22)												
Mean	8.91	8.09	8.55	8.86	8.00	8.00	7.86	8.00	9.41	8.18	8.39	
SD	1.34	1.41	1.53	1.17	1.69	2.05	1.39	1.54	.73	1.94		.52
06 (N=38)												
Mean	8.42	7.13	7.84	8.08	7.39	7.07	7.71	7.55	9.07	8.07	7.83	
SD	1.65	2.29	2.21	1.65	1.71	2.12	1.68	1.78	1.40	1.75		.61
09 (N=20)												
Mean	6.35	5.60	6.55	5.10	5.15	5.45	6.20	5.55	7.10	5.20	5.82	
SD	2.35	2.26	2.04	2.07	2.13	2.01	2.24	2.31	2.29	2.42		.68
10 (N=13)												
Mean	7.62	6.08	7.23	6.77	6.62	6.15	8.08	6.00	9.38	6.15	7.01	
SD	2.26	3.23	3.24	2.77	2.36	2.73	2.06	2.86	.96	3.18		1.09
11 (N=17)												
Mean	9.47	8.88	9.24	8.82	8.11	8.59	8.82	8.29	8.88	8.06	8.72	
SD	.62	1.05	.83	.88	1.27	1.06	.81	1.36	.78	1.20		.46
12 (N=16)												
Mean	8.50	7.56	7.00	7.75	7.00	6.68	7.56	6.75	9.00	6.88	7.47	
SD	.97	1.36	1.97	1.69	1.46	1.74	1.36	1.73	.97	1.71		.78
13 (N=19)												
Mean	8.74	8.58	8.26	8.37	8.16	8.21	8.16	7.89	8.42	8.16	8.29	
SD	1.63	1.50	1.52	.96	1.12	1.58	1.54	1.49	1.35	1.71		.24
14 (N=14)												
Mean	8.57	8.79	8.14	8.50	8.36	8.07	8.00	8.50	9.36	8.64	8.49	
SD	1.83	1.53	1.92	2.03	1.74	2.13	2.00	1.74	1.39	1.28		.40
N=159												
Mean	8.32	7.59	7.85	7.78	7.35	7.28	7.80	7.32	8.83	7.42	7.75	
SD	.95	1.24	.88	1.28	1.08	1.12	.75	1.09	.77	1.21		1.10

Means and Standard Deviations of Lane College Faculty on the Post-Test Administration of the Purdue Rating Scale for Instruction (cont'd)

May, 1969

11	12	13	14	15	16	17	18	19	20	Item Mean	SD on Item Mean
3.68 .72	3.55 .74	3.45 .74	3.50 1.01	3.09 .97	3.59 .96	3.36 .85	3.41 .91	3.46 .74	3.82 .67	3.49	.20
3.26 .60	3.37 .79	3.45 1.08	3.50 1.03	3.34 1.05	3.05 1.01	3.16 1.05	3.29 .90	3.05 .57	3.58 .86	3.30	.18
2.60 .88	2.95 .69	2.75 1.02	2.65 .87	2.40 1.23	3.00 1.17	3.05 .95	3.15 1.04	3.10 .85	2.80 1.15	2.84	.25
3.31 1.18	3.15 1.21	3.31 1.11	3.00 1.41	2.62 1.19	3.08 1.55	3.46 1.05	3.31 1.25	3.39 1.04	3.15 1.46	3.18	.24
3.82 .64	3.82 .81	3.71 1.05	3.65 .86	2.94 .56	3.82 .95	3.41 .80	3.71 .85	3.12 .60	4.06 .90	3.61	.35
3.25 .77	3.25 .68	3.19 .54	3.50 .89	2.63 .72	3.12 .96	3.00 1.26	3.31 .79	3.44 .63	3.25 1.06	3.19	.24
3.42 1.07	3.47 .61	3.53 .61	3.05 .62	3.26 .81	3.21 .54	3.26 .73	3.37 .68	3.32 .67	3.90 .74	3.38	.23
3.86 .77	3.71 .73	4.00 .83	3.86 .77	3.86 1.10	4.14 .66	4.00 .96	4.14 .77	3.36 .63	4.36 .75	3.93	.27
3.40 .41	3.41 .29	3.42 .37	3.34 .40	3.02 .47	3.38 .42	3.34 .31	3.46 .32	3.28 .16	3.61 .52	3.37	.39

Means and Standard Deviations of Lane College Faculty
on the Post-Test Administration of the Stanford
Teacher Competence Appraisal Guide

May, 1969

Faculty Member	1	2	3	4	5	6	7	8	9	10	11	12	13	Faculty Mean	SD on Item Mean
01 (N=22)															
Mean	3.91	3.68	3.77	3.82	4.14	4.00	4.41	3.59	4.13	3.77	4.59	4.23	4.05	4.01	
SD	1.11	1.25	1.19	1.22	1.46	1.41	1.50	1.50	1.42	1.41	1.10	1.23	1.09		.29
06 (N=39)															
Mean	3.59	3.67	3.62	3.59	3.77	3.67	3.62	3.67	3.77	3.51	3.72	3.51	3.54	3.63	
SD	1.35	1.34	1.48	1.31	1.27	1.40	1.31	1.56	1.51	1.35	1.70	1.39	1.33		.09
09 (N=20)															
Mean	3.50	3.10	3.30	3.30	3.60	4.20	3.05	3.40	3.75	3.10	3.60	3.45	3.50	3.45	
SD	1.43	1.02	1.42	1.38	.99	1.50	1.50	1.23	1.33	1.41	1.67	1.43	1.64		.31
10 (N=13)															
Mean	3.61	3.23	3.92	3.92	4.00	3.92	2.62	2.77	3.62	2.46	3.15	3.69	3.23	3.40	
SD	1.44	1.83	1.44	1.75	1.87	2.14	1.66	1.42	1.44	1.51	2.08	1.55	1.59		.53
11 (N=17)															
Mean	4.59	4.12	4.88	4.24	4.35	4.53	4.88	3.82	4.24	3.18	4.47	4.00	3.76	4.24	
SD	1.23	1.05	1.41	1.15	.93	1.51	1.50	1.19	1.30	1.07	1.07	1.00	1.30		.47
12 (N=16)															
Mean	3.38	3.44	3.75	3.88	3.88	4.13	3.88	3.50	4.25	3.88	4.19	3.94	4.13	3.86	
SD	1.31	1.36	1.29	1.31	.96	1.41	1.31	1.55	1.44	1.36	1.64	1.34	1.31		.28
13 (N=19)															
Mean	4.47	4.68	4.63	4.58	4.84	4.63	4.32	4.11	5.11	4.26	4.42	4.00	4.05	4.47	
SD	1.31	1.46	1.46	1.43	1.21	1.42	1.29	1.45	1.05	1.33	.96	1.20	1.39		.32
16 (N=14)															
Mean	4.43	4.57	4.93	4.57	4.71	4.71	4.71	4.07	5.29	4.64	5.29	4.79	4.71	4.72	
SD	1.34	1.34	1.33	1.28	1.54	1.38	1.54	1.44	1.39	1.68	1.31	1.68			.32
N=160															
Mean	3.93	3.81	4.10	3.99	4.16	4.22	3.94	3.62	4.27	3.60	4.18	3.95	3.87	3.97	
SD	.49	.59	.62	.45	.44	.37	.80	.43	.62	.69	.67	.43	.46		.56